Comprehensive Report of AI Resources and Institutions in Africa's Higher Education Ecosystem

Findings of the Desk Review and the AI Capacity Assessment Survey

Advancing Responsible and Gender-Inclusive Artificial Intelligence Capacity in Africa's Higher Education Ecosystem (ARISE)

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The report draws on two sources of evidence: publicly available information compiled in a desk review, and responses to an online AI Capacity Assessment survey of staff and students in African higher education institutions. Survey responses were collected on a voluntary basis and are reported only in aggregate. Personal identifiers supplied by respondents, including email addresses and the names of individuals, were removed from the analysis files, and no institution is ranked or scored by name. Institutions are named only where their names appear in public sources, where they are listed as participating organisations, or where the illustration is drawn from published material.

Figures quoted from the survey describe the perceptions of those who chose to respond, weighted as explained in Section 2.8. They should not be read as statistically representative estimates for African higher education as a whole, nor as an audit of any individual institution. The underlying datasets are held by the ATPS Secretariat and may be shared for verification on request, subject to the confidentiality undertakings given to respondents.

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List of Abbreviations and Acronyms

Abbreviation	Meaning
ACE	African Centre of Excellence
AI	Artificial Intelligence
AI4AFS	Artificial Intelligence for Agriculture and Food Systems (Innovation Research Network)
AI4D	Artificial Intelligence for Development (Africa programme)
AIMS	African Institute for Mathematical Sciences
AMMI	African Master's in Machine Intelligence
ARISE	Advancing Responsible and Gender-Inclusive Artificial Intelligence Capacity in Africa's Higher Education Ecosystem
ATPS	African Technology Policy Studies Network
AU	African Union
CoP	Community of Practice
DBA	Doctor of Business Administration
ESS	Effective sample size
GPU	Graphics Processing Unit
HEI	Higher Education Institution
HPC	High-Performance Computing
ICE	Interactive Collaborative Environment (ATPS platform)
IDRC	International Development Research Centre
LLM	Large Language Model
NLP	Natural Language Processing
NM-AIST	Nelson Mandela African Institution of Science and Technology
NOUN	National Open University of Nigeria
NUC	National Universities Commission (Nigeria)
R&D	Research and Development
RAI	Responsible Artificial Intelligence
SSA	Sub-Saharan Africa
STI	Science, Technology and Innovation
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-IICBA	UNESCO International Institute for Capacity Building in Africa
UNESCO-ICHEI	UNESCO International Centre for Higher Education Innovation

Executive Summary

295	225	242	2.80 / 5
AI-related programmes found in SSA (407 continent-wide)	SSA institutions offering them	valid survey responses, 13 countries	mean self-rated institutional AI capacity

This report is the key output of Activity 1 of the ARISE project, implemented by the African Technology Policy Studies Network (ATPS) with support from The Andrew Carnegie Foundation. It addresses the project's first specific objective: enabling informed, targeted interventions through a situational analysis and mapping of AI resources and institutions in Africa's higher education ecosystem, to identify status, surface gains, and identify gaps and capacity needs. It outlines where AI teaching, research, and development are taking place; the curricula available; the technical and financial resources that support the work; linkages with industry and other actors; capacity needs; recorded success stories; and the challenges encountered so far. The analytical focus is sub-Saharan Africa, the project's geographic scope.

Two methods were combined. A desk review of institutional websites, ministry and regulator portals, and donor publications concluded in August 2026, compiled a harmonised record of 407 AI-related programmes across 32 African countries, 295 of them in 27 sub-Saharan countries, and a narrower register of 54 dedicated AI degrees. An online AI Capacity Assessment survey then asked staff and students what capacity actually exists inside their institutions. It yielded 242 valid responses from 73 higher education and research institutions and 13 other organisations in 13 sub-Saharan countries. Because participation was uneven, survey results are weighted so that no country or institution dominates simply because more of its members responded. A shortlist of six documented success stories complements the two datasets.

This review shows that AI teaching is already widespread. In sub-Saharan Africa the desk review located AI-related programmes at 225 institutions, concentrated in Eastern Africa (163 programmes) and, at some distance, Western (79) and Southern Africa (52); Central Africa registered a single programme. Kenya (71), Nigeria (48) and South Africa (30) lead at country level. Most of this activity is not, however, a named AI degree. Only 40 dedicated AI degrees were found in the region, and doctoral provision is the thinnest layer of all: 16 of the 295 programmes (5%) offer PhD-level training, and of the five institutions the desk review verified as offering a doctorate named, without qualification, as a PhD in Artificial Intelligence, only two are in sub-Saharan Africa: the National Open University of Nigeria and the Open Institute of Technology in Ghana, whose programme was due to begin in September 2026. Within institutions, more than three in four survey respondents (78.0%) say AI is a strategic priority, yet only 38.3% report a formal institutional AI strategy.

There are real gains to build on. A provisional readiness classification of the 73 surveyed institutions places 30 in the Advanced tier and one in the Leading tier, against three in the Emerging tier. Respondents report bachelor's (49.0%) and master's (45.7%) provision in AI or related fields, and nearly a third (31.5%) report doctoral-level provision. Agriculture, education, health and climate are all active application areas, with clear sub-regional specialisations: agriculture in West Africa, health and language technologies in East Africa. Success stories such as AirQo at Makerere University, KilimoAI at the Nelson Mandela African Institution of Science and Technology, PeMOST at Jomo Kenyatta University of Agriculture and Technology, Coach Vici at Stellenbosch University, Masakhane and Lelapa AI show university research reaching farmers, cities and speakers of African languages at scale.

Respondents feel the infrastructure deficit more acutely than any other: 53.5% describe AI software licences as absent or inadequate and between 39% and 45% say the same of cloud access, computing, datasets, innovation spaces, technical support and laboratories. The research base is thin; 63.5% rate research opportunities and funding as poor or fair. Between 28% and 34% are unsure whether their institution has AI ethics, data governance or privacy instruments, and the curriculum on offer is dominated by general AI, data science and machine learning (88% of sub-Saharan programmes), with ethics, health, language and vision applications at the margins. A gender paradox runs through the findings: 82.7% agree that women have equal opportunities in AI research, but only 21.4% report AI scholarships for women, and among respondents who disclosed their gender, 90.4% of men but only 65.5% of women affirm equal opportunity. Industry is the weakest linkage, cited by only 15.2% as a collaborator. When asked where corrective action is most urgent, respondents name AI laboratories (74.8%), research funding (70.8%), and AI curriculum (66.3%). Capacity differs less between sub-regions (2.79 to 2.95 out of 5) than between institution types, with colleges (1.90) far behind universities (2.86) and research institutes (3.05).

Top five strategic recommendations include:

1. Target fellowships and mentoring where doctoral capacity is thinnest, and reach women deliberately (Objective 2).
2. Close the governance awareness gap through ARISE knowledge-sharing activities (Objective 3).
3. Develop the standardised PhD curriculum around what respondents ask for, with ethics and responsible AI embedded alongside practical engineering skills, domain applications and African-language AI, with support extended to colleges and polytechnics as well as research universities (Objective 4).
4. Carry the infrastructure, funding and strategy evidence into the policy dialogue (Objective 5).
5. Keep the mapping alive by verifying the standalone AI doctorates, extending outreach to Central, Francophone and Lusophone Africa, publishing the institutional register on the ATPS ICE platform, and repeating the survey in Year 3 to measure change (Objective 1).

1. Introduction and Rationale

1.1 Background: The AI Capacity Challenge in Africa

Artificial intelligence is reshaping how economies produce, how governments deliver services and how knowledge itself is generated. Africa's share of that transformation will depend, more than on anything else, on the people able to build, adapt and govern AI systems for African conditions. Evidence suggests this human capital remains scarce. UNESCO, the African Union and UNICEF observe that many African education systems are not yet equipped to deliver the technical competencies and workforce preparation that digital economies demand, and UNESCO's AI needs assessment identifies significant shortages in AI-related education, training and human-resource capacity across the continent (UNESCO, African Union, & UNICEF, 2025; UNESCO, 2021).

The gap is easier to grasp when expressed in people. Ruwoko (2022) estimates that to harness the digital economy for the Sustainable Development Goals, Africa must cultivate at least 5,000 PhD scholars in AI and machine learning over five years. Capacity is also unevenly spread. The Oxford Insights Government AI Readiness Index 2025 places most African countries below the global median on infrastructure and AI-development indicators and identifies a small cluster, Kenya, South Africa, Rwanda, and Mauritius, as comparatively AI-ready (Oxford Insights, 2025). A 2026 exploratory study by UNESCO-IICBA and UNESCO-ICHEI adds that inadequate infrastructure, meaning network access and equipment, is the single most significant constraint on AI use in African higher education, and that Anglophone institutions report markedly higher AI engagement than Francophone ones (UNESCO-IICBA & UNESCO-ICHEI, 2026).

These structural barriers, limited computing and connectivity, thin doctoral pipelines, uneven policy frameworks and language divides, reinforce one another. The African Union's Continental Artificial Intelligence Strategy names cultivating AI competencies among students and educators as a continental priority because current provision remains concentrated and uneven (African Union, 2024).

1.2 The Higher Education Ecosystem as the Engine of AI Capacity

Universities, polytechnics, colleges, and research institutes produce, renew, and deploy Africa's AI capacity. They train the graduates and doctoral researchers who staff laboratories, firms and public agencies. They generate locally relevant knowledge, from crop-disease diagnostics to language models for African languages, that is unlikely to be produced elsewhere. They also provide much of the expertise governments draw on when writing AI policies and regulations. Strengthening this ecosystem therefore has a multiplier effect that investment in any single sector cannot match.

Earlier AI initiatives on the continent have tended to be sector-driven, and few have treated higher education as an ecosystem in which institutions, people, curricula, resources, partners

and policies interact (African Technology Policy Studies Network, 2025). This report adopts that ecosystem perspective. It looks not only at which programmes exist, but at the resources behind them, the linkages around them and the conditions that help or hinder them.

1.3 The ARISE Project and Where This Mapping Fits

ARISE, *Advancing Responsible and Gender-Inclusive Artificial Intelligence Capacity in Africa's Higher Education Ecosystem*, is a 36-month initiative (October 2025 to September 2028) that aims to advance responsible and gender-inclusive AI capacity in Africa's higher education ecosystem, with a special emphasis on doctoral and postdoctoral training. It pursues five specific objectives (African Technology Policy Studies Network, 2025):

1. Enable informed and targeted interventions by conducting situational analyses and mapping of AI resources and institutions within the higher education ecosystem in Africa to identify statuses, surface gains, identify gaps and capacity needs.
2. Build a strong community of practice and skilled workforce in AI by supporting 16 fellowships, ten PhD and six postdoctoral fellows, over three years.
3. Advance knowledge sharing, exchange and dissemination of research findings and innovations through sensitisation, customised hands-on training and mentorship on AI for development in Africa.
4. Mainstream AI into academic programmes by supporting the development and revision of contextualised AI curricula in selected higher education institutions.
5. Sustain the adoption of AI across sectors by contributing to the development of AI policies and strategies at national, regional and continental levels.

Activity 1 serves the first of these objectives and parts of the fourth and fifth. It involves identifying higher education institutions in Africa where AI teaching, research, and development are carried out; the curricula available; the sources of resources used to support AI R&D (technical and financial); linkages with industry and other actors; capacity needs; success stories recorded; and challenges encountered so far. This report is its key output. The expected outcomes are practical: prospective scholars and fellows should be able to identify suitable destinations for their AI studies; institutions should receive informed support based on an understanding of their capacities, successes, and challenges; and collaboration among academia, industry, government, and research actors should increase. The mapping is the evidence base that makes every subsequent ARISE activity deliberate rather than assumed.

1.4 Purpose and Scope of This Mapping Study

The study aimed to document the status of AI capacity in the region's higher education ecosystem, surface the gains already made, and identify the gaps and capacity needs ARISE and its partners should address. Table 1 shows where each element of Activity 1 is addressed in this report.

Table 1. *Elements of Activity 1 and where this report addresses them.*

Activity 1 element	Main evidence	Report sections
Higher education institutions where AI teaching, R&D are carried out	Desk review register; survey of 73 institutions; readiness classification	3, 11; Appendix C
Curricula available	Desk review programme and degree registers; survey provision and teaching items	4; Appendix D
Sources of resources (technical and financial) for AI R&D	Survey infrastructure and funding items; desk review partners	6
Linkages with industry and other actors	Survey collaboration items; desk review partners; success stories	8
Capacity needs	Survey priority ranking and open-ended answers	10
Success stories recorded	Shortlist of six documented cases; survey-reported innovations	5.3; Appendix G
Challenges encountered so far	Survey ratings, barriers and open-ended answers	10.1 to 10.5
Statuses, gains, gaps (Specific Objective 1)	All of the above	12.1
Parts of Specific Objectives 4 and 5 (curriculum; policy)	Curriculum demand; governance and policy evidence	4, 9, 12.3

Geographic scope. The analytical focus is the 49 countries of sub-Saharan Africa, ARISE's geographic scope. The desk review was conducted continent-wide and therefore also recorded 105 programmes in Northern Africa. These are retained as a continental reference point, reported separately where they appear, and summarised briefly in Section 11.5, but they do not drive the findings or recommendations. The survey focused on sub-Saharan Africa from the outset.

Institutional scope. The term higher education institution refers to universities, university colleges, and other institutions mandated to award post-secondary qualifications, including public and private universities, national polytechnics with degree-awarding status, and TVET colleges offering post-secondary diplomas and certificates. The desk review also captured AI research and training delivered by entities operating within, or in direct partnership with, this ecosystem, such as university-affiliated research institutes and centres, laboratories housed in universities, and government or donor-funded fellowship and training schemes implemented through a named university. Purely private training providers, corporate bootcamps and online platforms with no formal affiliation to a higher education institution fall outside the scope.

Thematic scope. AI is understood broadly, covering machine learning, computer vision, natural language processing, the Internet of Things, big data, robotics and drone technology, among other fields.

1.5 Report Structure Guide

Section 2 sets out how the evidence was gathered and analysed. Sections 3 to 9 present the findings: the institutional landscape and a provisional readiness classification (Section 3); curricula and academic programmes (4); research, innovation and success stories (5); technical and financial resources (6); gender, equity and inclusion (7); linkages with industry and other actors (8); and the policy and governance environment (9). Section 10 draws these threads into an account of challenges, gaps and capacity needs. Section 11 summarises the evidence by sub-region for readers who are not AI specialists, and Section 12 states the principal findings, recommendations and implications for the remaining ARISE activities. The appendices hold the survey instrument, data fields and coding frames, the master list of institutions and the register of dedicated AI degrees, country-level data, readiness and indicator tables, and success-story profiles.

2. Study Design and Methodology

2.1 Conceptual Framework

The mapping treats AI capacity in higher education as an ecosystem rather than a list of programmes. At its centre sit the institutions that teach and research AI. Around them are six connected components: the programmes and curricula they offer; the research and innovation they produce; the resources, financial, physical, digital and human, on which they depend; the people who take part, with particular attention to women and under-represented groups; the linkages that connect institutions to industry, government and international partners; and the policies and governance arrangements that shape what is possible. Figure 1 presents the framework and indicates where each component is analysed.

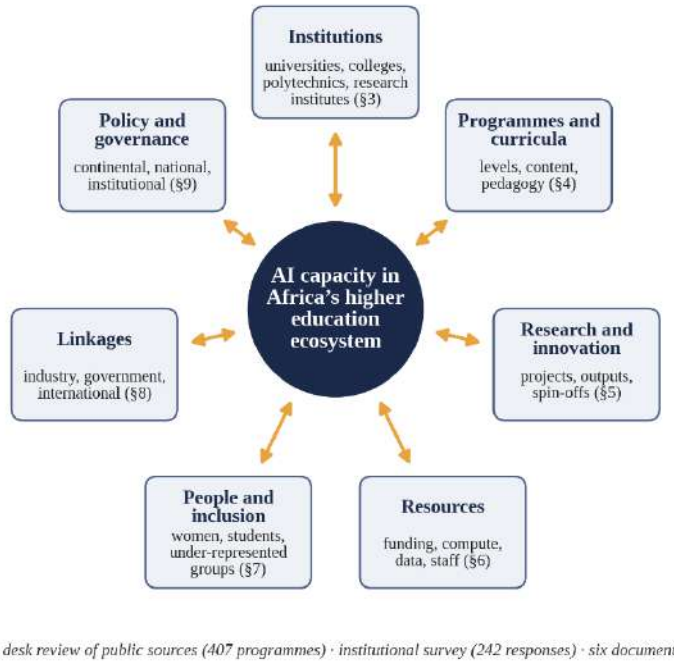


Figure 1. *Conceptual framework of the AI higher education ecosystem used in this mapping.*

2.2 Mapping Objectives and Research Questions

The study was designed to answer eight questions, each traceable to the project's objectives and to the elements of Activity 1. Table 2 lists them, the evidence used, and the depth of coverage achieved.

Table 2. *Research questions, evidence and coverage.*

Research question	Evidence used	ARISE objective	Coverage
1. Which institutions in Africa are actively involved in AI teaching, research and development, and where are they?	Desk review; survey	1, 2	Good for SSA; thin for Central Africa

Research question	Evidence used	ARISE objective	Coverage
2. What AI academic programmes exist and what do they cover?	Desk review; survey	1, 4	Good
3. What resources are available for AI work in these institutions?	Survey	1, 2	Good (perception-based)
4. Who funds AI activity, and on what terms?	Survey; desk review partners	1, 5	Partial: sources identified, amounts not collected
5. How do institutions link with industry, government and international partners?	Survey; desk review; success stories	1, 3	Good
6. What are the gender and equity dimensions of AI participation?	Survey; desk review	1 (cross-cutting)	Partial: perceptions and provision; no enrolment data
7. What AI-relevant policies and governance arrangements exist?	Desk review; survey	1, 5	Institutional level good; national inventory partial
8. What are the most pressing challenges and capacity needs, and what would close them?	Survey; success stories	1, 4, 5	Good

2.3 Geographic Scope and Sampling Strategy

The desk review sought complete coverage rather than a sample: reviewers systematically searched for every AI-related programme they could find in publicly available sources across all five African sub-regions. Inclusion required a clear AI component and an institutional home within, or in formal partnership with, the higher education ecosystem as defined in Section 1.4.

The survey followed an open, non-probability design. The online form was disseminated through ATPS national chapter coordinators, the host institutions of ARISE fellows and professional networks, and anyone working or studying in a sub-Saharan higher education or research institution could respond. Two responses from Morocco were excluded because they fall outside the project's scope. The design reached institutions a desk review rarely sees, including colleges of agriculture and education and TVET providers, but participation was uneven, which the weighting described in Section 2.8 corrects.

2.4 Data Collection Methods

Activity 1 combined two complementary methods with a structured search for documented success stories (Table 3). The primary sources synthesised here are the detailed reports on the two methods (African Technology Policy Studies Network, 2026b, 2026c) and the success-story note (African Technology Policy Studies Network, 2026d).

Table 3. *Data collection methods used in Activity 1.*

Method	What it covers	Period	Output
Desk review and secondary data analysis	Institutional websites, ministry and regulator portals, donor and partner publications, programme brochures, ATPS publications and published indices	Concluded August 2026	Harmonised dataset of 407 programmes (295 in SSA); register of 54 dedicated AI degrees (40 in SSA)
AI Capacity Assessment survey	Online questionnaire to staff, students and leaders in higher education and research institutions	August to October 2026	242 valid responses; 73 institutions; 13 countries
Success-story identification	Documented AI use cases originating in African universities, verified against at least two published sources	Alongside the desk review	Shortlist of six cases (Section 5.3; Appendix G)

2.5 Identifying and Documenting Success Stories

Success stories were identified during the desk review against five criteria: originality of the research or application; a clear origin in an African university, research institute or higher education programme; evidence of real use rather than a prototype; reach to a broad base of users, with attention to women, smallholder farmers, rural communities and persons with disabilities; and independent verification through more than one credible source. Six cases met these criteria. Section 5.3 summarises them, and Appendix G profiles them.

The six cases come from Eastern and Southern Africa and from a pan-African research network. No case from Western or Central Africa yet meets the verification standard, although the survey surfaced several candidates in Nigeria, Ghana, Benin and Burkina Faso (Section 5.2). Section 12.4 recommends widening the shortlist so that every sub-region is represented. The survey also reviewed several promising AI projects for persons with disabilities, but they remain at the research or prototype stage and were therefore not included.

2.6 Data Collection Instruments

Table 4. *Data collection instruments.*

Instrument	Purpose	Items	Target respondent
AI Capacity Assessment questionnaire	Capture institutional strategy, teaching, research, infrastructure, governance, gender and capacity needs	59 items in nine sections (Appendix A): rating scales, multiple-response items and six open questions	Academic staff, researchers, students, ICT and administrative staff, institutional leaders, policy and industry respondents
Desk review data extraction template	Standardise extraction from secondary sources	Harmonised dataset of 40 fields (Appendix B)	Desk review researchers

Instrument	Purpose	Items	Target respondent
Success-story assessment criteria	Screen and verify documented AI use cases	Five criteria (Section 2.5)	Desk review researchers

The questionnaire was administered through Google Forms and takes about 20 to 25 minutes to complete.

2.7 Data Management and Quality Assurance

Desk review. The harmonised dataset (African Technology Policy Studies Network, 2026a) underpins all desk review figures. For every programme the reviewers recorded the country and sub-region, the offering institution and its type, the level of training, whether AI is the standalone subject or a specialisation within another discipline, the area of AI emphasised, the mode of delivery and, where stated, the target audience and partners. Information was captured directly from the original source in every instance. At the time of writing, 32 of the 407 entries (7.9%) had been independently cross-checked against a second source, and the average completeness of the information captured across all fields sought was 71%. Entries describing degree-granting programmes, especially doctoral programmes and the dedicated AI degrees, were checked directly against each institution's own website wherever one was available. Classification judgments in ambiguous cases are recorded in the dataset and can be revisited.

Survey. The raw export was cleaned and harmonised as summarised in Figure 2 and Table 5. Free-text institution names, which appeared in 153 different spellings, were harmonised to 86 organisations, of which 73 are universities, colleges, polytechnics or research institutes. Respondents from the other 13 organisations (14 people) are retained in descriptive results but excluded from weighted institution-level estimates. Email addresses and the names of individuals were removed from the analysis files.

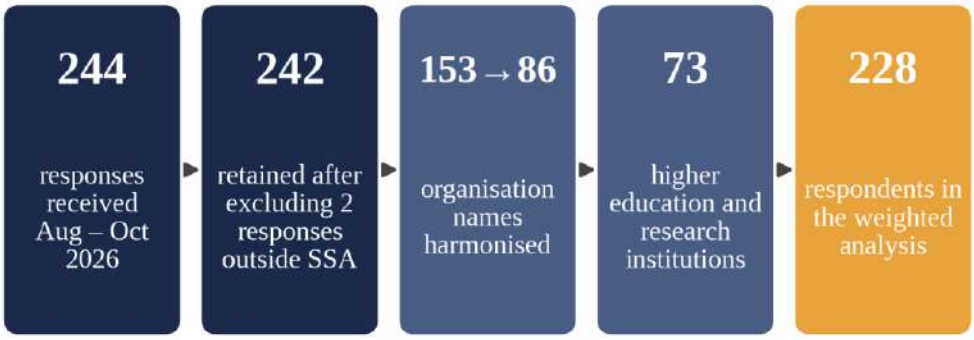


Figure 2. *Survey data cleaning and analytical base.*

Table 5. *Survey data cleaning log.*

Step	Detail	Records
Raw export	Responses received between August and October 2026	244

Step	Detail	Records
Scope exclusion	Respondents in Morocco, outside ARISE's sub-Saharan scope	2 excluded
Country correction	Country contradicted the named institution (University of Rwanda recorded as Benin); country set from institution	1
Sub-region correction	Self-reported sub-region contradicted country; sub-region re-derived from country	7
Institution harmonisation	153 spellings mapped to 86 organisations; 73 higher education and research institutions retained for institution-level analysis	242
Non-HEI organisations	Government agencies, a police service, a youth service, NGOs and associations, private firms, the ATPS Secretariat and its Ghana chapter, and unidentifiable entries kept at respondent level only	14
Numeric outliers	Implausible enrolment or staffing values (e.g. an annual PhD intake of 30,000) set to missing	8
Respondent gender	Non-substantive answers set to missing	88 valid
Infrastructure scale	"Do not know", placed at the midpoint of the scale (code 3), treated as the neutral category	All rows
Invalid entries	Non-substantive text (e.g. single characters) ignored in multiple-response and open-ended coding	Minor

2.8 Analytical Approach

Desk review data are analysed descriptively, through counts and shares by country, sub-region, level, type and focus area. A stricter test was then applied to the same evidence base to produce a register of dedicated AI degrees: Bachelor's, Master's and PhD programmes that name AI directly in their title (Appendix D).

Survey data are weighted. One country supplied 56% of respondents and 41 of the 73 institutions, and single institutions contributed anything from one to 45 respondents. In the first stage of weighting, every institution receives equal weight within its country, shared among its respondents. In the second, each country's total weight is set in proportion to the square root of the number of institutions it contributes, a standard compromise between weighting countries equally and weighting them by size. Under this rule the largest country carries 26.1% of the weight rather than 58.3% of the respondents, and countries represented by a single institution carry 4.1% each (Figure 3). By sub-region, West Africa accounts for 41.3% of the weight, East Africa 30.9%, Southern Africa 23.8%, and Central Africa 4.1%.

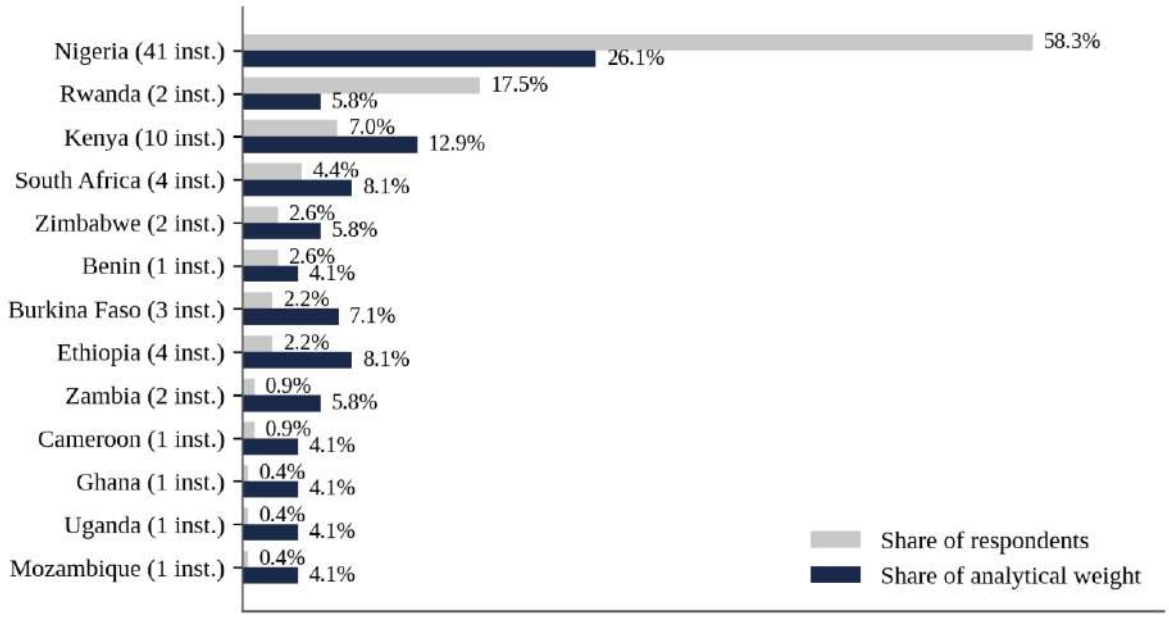


Figure 3. *Share of survey respondents and share of analytical weight by country (respondents from higher education and research institutions, n = 228; number of institutions in brackets).*

Weighting costs precision. The effective sample size of the weighted data is 66, so a weighted percentage near 50% carries a margin of error of up to about 12 percentage points. Every headline indicator is therefore also reported unweighted, with institutions weighted equally, and with countries weighted equally (Appendix F), and the direction of every finding holds across all four bases. The respondent profile is reported unweighted because it describes who took part. Gender-disaggregated results (29 women and 52 men) and the coding of open-ended answers are also unweighted; differences between women and men are tested with Fisher's exact test. Open-ended answers, including those in French, were coded against a thematic frame (Appendix B) and checked by reading the answers in full. On the infrastructure scale, "Do not know" sits at the instrument's midpoint and is treated as its neutral point.

Finally, a provisional readiness classification (Section 3.4) combines survey items into five dimensions and assigns each institution to a broad tier. It is reported only in aggregate.

2.9 Ethical Considerations

Participation in the survey was voluntary, and respondents were informed of the purpose of the exercise in the introduction to the form. Results are reported only in aggregate, personal identifiers were removed before analysis, and data are held by the ATPS Secretariat. Because several institutions contributed only one or two respondents, institution-level scores are not published, and the readiness classification is presented by sub-region and institution type rather than by name, so that the mapping cannot be used to rank or disadvantage any participating institution. The desk review relied exclusively on publicly available information; individuals are named only where they are publicly recognised for their professional work.

2.10 Study Limitations

Table 6. *Study limitations and the steps taken to mitigate them.*

Limitation	Mitigation
Desk review coverage depends on what institutions publish online; institutions with a limited online presence, and activity published in French, Arabic or Portuguese, are likely under-represented.	Survey outreach through ATPS national chapters; French-language answers coded; Central and Francophone gaps reported as findings rather than assumed absences.
Desk review can establish that a programme exists and how it describes itself, but not enrolment, staffing, funding or outcomes.	Survey used to capture staffing, infrastructure, funding and governance perceptions; remaining gaps recorded in Section 12.4.
Only 7.9% of desk review entries were cross-checked against a second source; average completeness was 71%.	Degree-granting and doctoral entries checked against institutional websites; dataset records each classification judgment.
The survey sample is self-selected and concentrated in one country and three institutions.	Two-stage balanced weighting; four alternative bases reported; unweighted profile shown for transparency.
Weighting reduces precision (effective sample size 66) and gives a few respondents in thinly represented countries considerable influence.	Margins of error stated; differences smaller than about 12 points not interpreted; sub-regional results flagged where based on few respondents.
Survey items measure perceptions; colleagues at the same institution often disagreed on institutional facts. For example, the 32 University of Rwanda respondents split between “yes” (11), “under development” (10), “do not know” (9) and “no” (2) on whether an AI strategy exists.	Such items are interpreted as measures of awareness, not audits; straight-lining (47.9% on governance items) reported.
Only 88 respondents answered the gender question (29 women, 52 men, seven preferring not to say).	Gender results reported unweighted with significance tests and treated as indicative.
Central Africa is represented by one institution in the survey and one programme in the desk review; many SSA countries are absent.	Absence treated as a finding; targeted outreach recommended.
AI capacity changes quickly; programmes are being launched and approved continuously.	Data dated; Year 3 repeat recommended.

3. Institutional Landscape and AI Readiness

This section answers the first element of Activity 1: which higher education institutions in sub-Saharan Africa are carrying out AI teaching, research and development, where they are, and how ready they appear to be. It is the evidence from which prospective fellows can identify suitable destinations and ARISE can direct institutional support.

3.1 Overview of AI-Active Institutions by Sub-Region

The desk review identified 295 AI-related programmes offered by 225 institutions or initiatives in 27 sub-Saharan countries; continent-wide, the totals are 407 programmes at 305 institutions in 32 countries. The survey adds a second, independent view: 73 higher education and research institutions in 13 countries in which staff or students reported on their AI capacity. Figure 4 maps the two sources side by side, and Table 7 summarises them by sub-region.

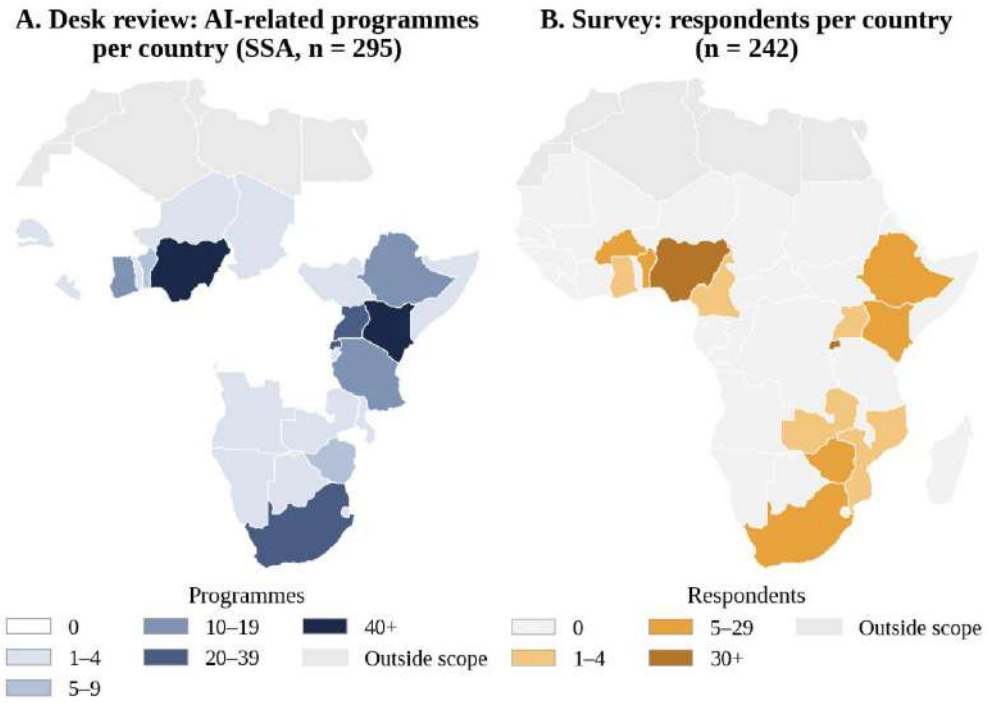


Figure 4. *Where AI teaching is documented and where survey respondents are based. Northern Africa, outside the ARISE scope, is shaded grey.*

Table 7. *AI-active institutions and programmes by sub-region.*

Sub-region	Desk review programmes	Dedicated AI degrees	Survey respondents	Survey institutions
Eastern Africa	163	19	66	17
Western Africa	79	15	153	46
Southern Africa	52	6	20	9
Central Africa	1	0	3	1
Sub-Saharan Africa	295	40	242	73
Multi-country or not assigned	7	–	–	–

Sub-region	Desk review programmes	Dedicated AI degrees	Survey respondents	Survey institutions
Northern Africa (reference only)	105	14	–	–

Desk review sub-regions follow the harmonised dataset. Seven continent-wide or multi-country initiatives (for example, scholarship schemes run by international foundations) could not be assigned to a sub-region. Survey respondents include 14 from organisations other than higher education institutions.

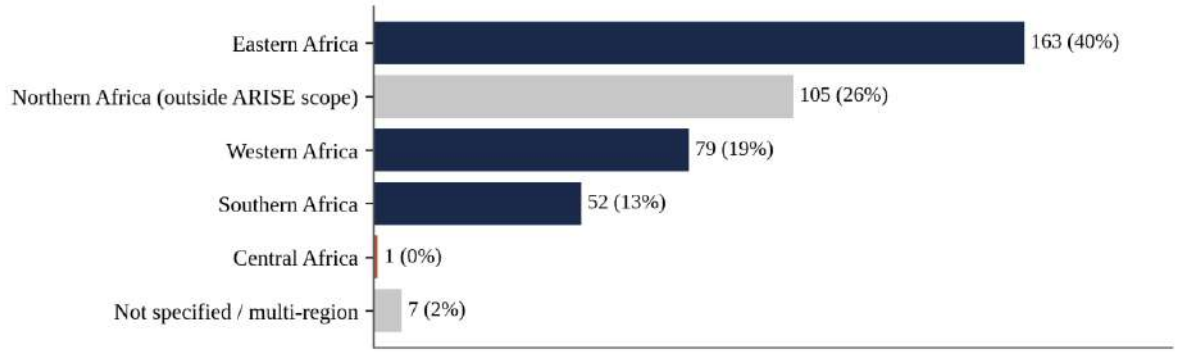


Figure 5. *AI-related programmes identified by the desk review per sub-region, number and share of the continental total (n = 407).*

Eastern Africa dominates, reflecting research-active public universities in Kenya, Uganda, Rwanda and Ethiopia that have integrated AI into computer science and data science programmes, often with government or donor support. Kenya alone accounts for 71 programmes, more than any other country on the continent (Figure 6). Western Africa's smaller share is concentrated in Nigeria (48) and Ghana (18), where provision is spread across many universities with relatively few standalone AI departments. Southern Africa's contribution comes largely from a small number of well-resourced research universities in South Africa (30). Central Africa registered a single programme, in Chad. That near-absence likely reflects the limits of what is published online and the languages in which it is published, rather than the true state of higher education in the sub-region, and the survey only partly closes the gap: three respondents, two from the University of Ngaoundéré in Cameroon.

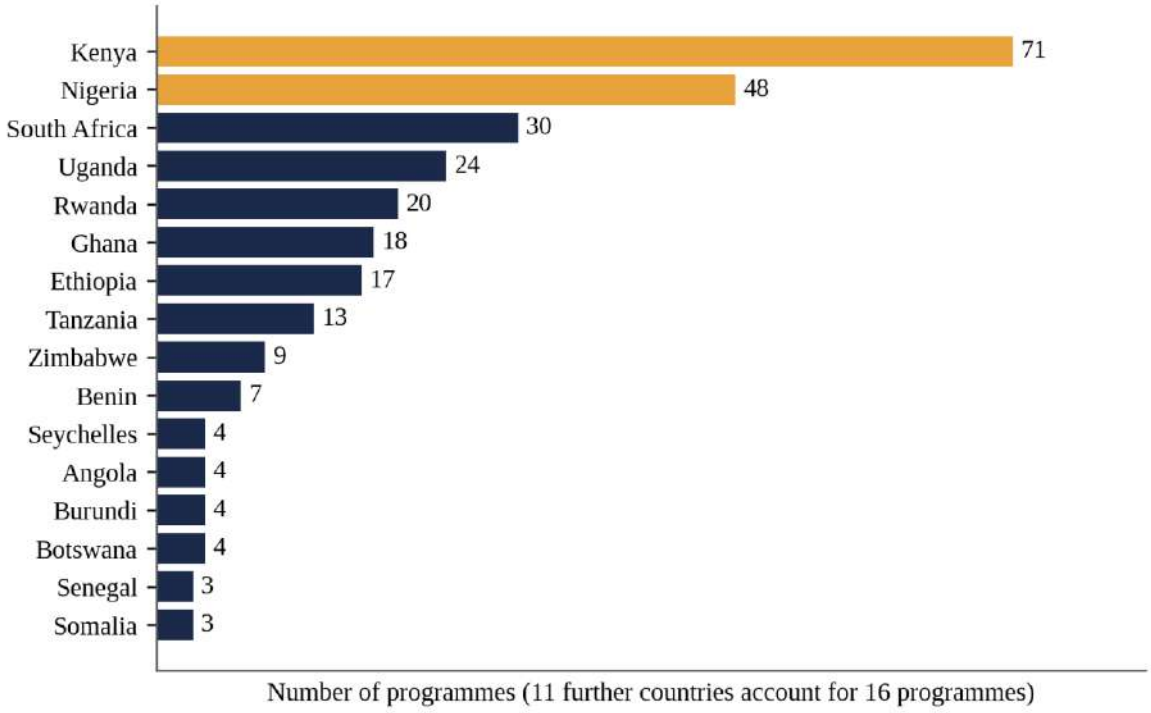


Figure 6. *AI-related programmes identified per sub-Saharan country (desk review, n = 295).*

This concentration of AI programmes in a few countries mirrors national readiness. Kenya, South Africa, Rwanda, and Mauritius form the comparatively AI-ready East and Southern African cluster identified by Oxford Insights (2025), and the countries leading the programme count are those with active digital-economy strategies and stronger institutional investment in AI.

3.2 Typology of Institutions

Desk review entries were classified by the type of institution or initiative offering them (Figure 7). University programmes are the largest category in sub-Saharan Africa (87 entries, 29%), followed by academic degrees of unspecified or mixed level (58, 20%), government initiatives and training programmes (43, 15%) and bootcamps (38, 13%). Research centres, colleges, scholarship schemes and workshops each account for small shares, and 35 entries (12%) could not be classified from the source material. Universities therefore remain the main home of AI training, but public-sector programmes and short intensive courses play a substantial supporting role.

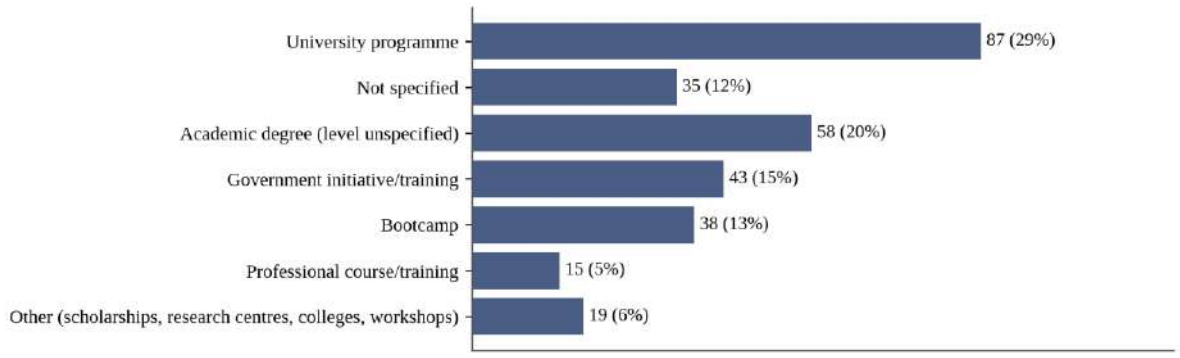


Figure 7. *Institution or programme type of AI-related programmes in sub-Saharan Africa (desk review, n = 295).*

The survey reached a somewhat different mix (Figure 8). Universities account for 64.5% of respondents and colleges for 19.4%, with smaller numbers from polytechnics, research institutes, government agencies, and non-governmental organisations; 88.0% work in publicly owned institutions. Academic staff dominate: 120 respondents (49.6%) are lecturers or professors and 20 more are heads of department or directors, alongside 35 postgraduate students or postdoctoral fellows, 22 researchers and 18 undergraduates. The 63 respondents from colleges and polytechnics, including Rwanda Polytechnic and a Kenyan TVET college, give voice to institutions that public material rarely documents. Participation was concentrated: the Federal College of Agriculture, Ishiagu, the University of Rwanda and the University of Nigeria, Nsukka, supplied 40% of all responses, which is why the results are weighted.

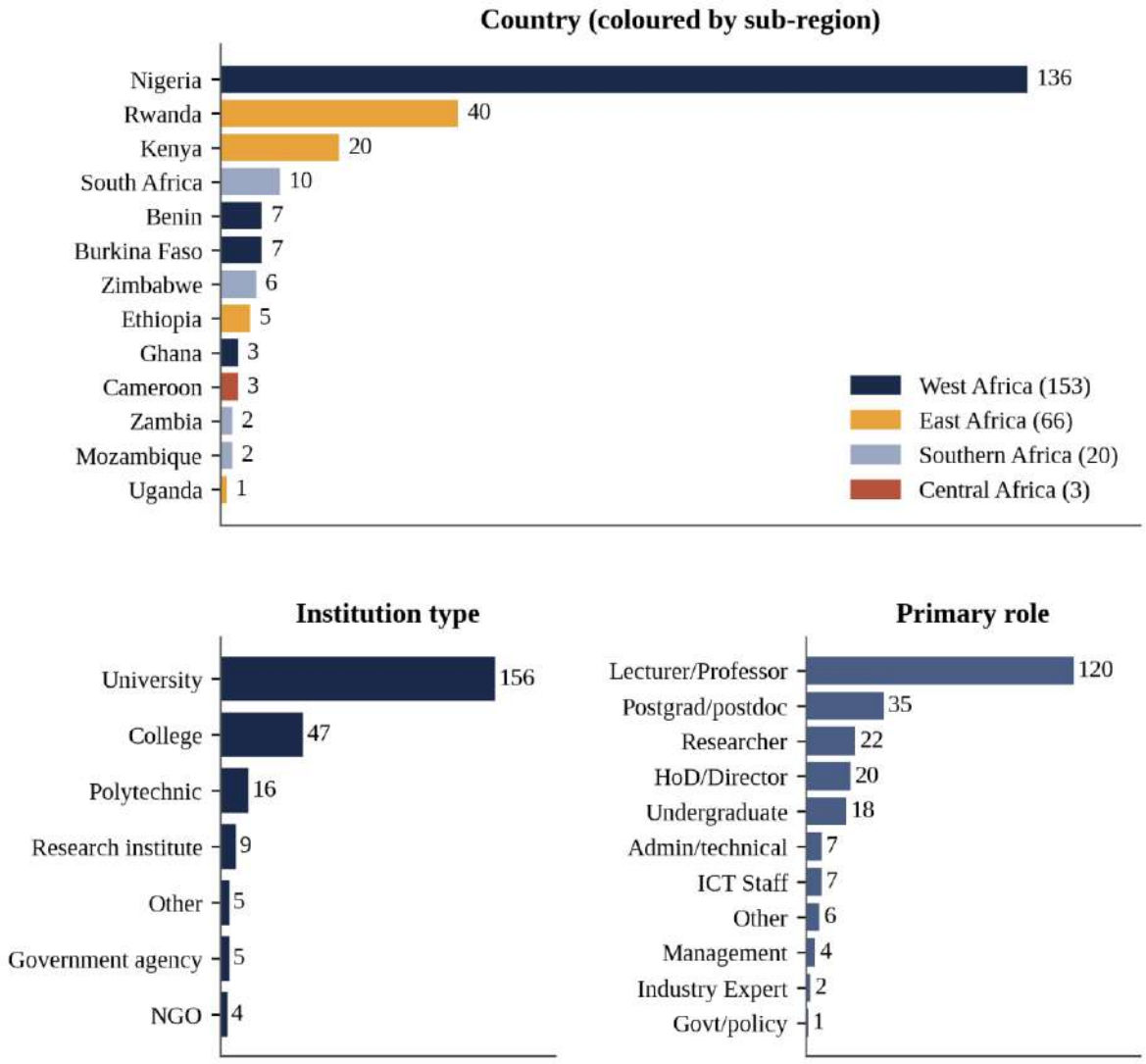


Figure 8. *Survey respondents by country and sub-region, institution type and primary role (unweighted, n = 242).*

3.3 Institutional Profiles: Illustrations of the Range of AI Activity

The range of AI activity across the region is best illustrated by contrast. At one end are institutions with a full suite of AI provision and a record of research translated into use. Makerere University's College of Computing and Information Sciences in Uganda hosts AirQo, founded in 2015, which pairs low-cost locally built air-quality sensors with AI calibration and forecasting models and has expanded from Kampala to ten cities in five countries. Jomo Kenyatta University of Agriculture and Technology offers a dedicated MSc in Artificial Intelligence and, through its School of Biosystems and Environmental Engineering, developed the PeMOST pest-forecasting tool with support from ATPS's AI4AFS network. The University of the Witwatersrand and the University of Johannesburg in South Africa both run dedicated Master's programmes in AI, and Stellenbosch University commercialised the Coach Vici AI coaching chatbot through its technology transfer office.

In the middle are many universities that teach AI as a track within computer science or data science, often at the Master's level, with growing but under-resourced research. Nigeria illustrates the trend: the National Universities Commission has recently approved new Bachelor's programmes in AI at several universities, including Enugu State University of Science and Technology and Federal University Lokoja, and the National Open University of Nigeria offers both an MSc and a PhD in AI through its Africa Centre of Excellence on Technology Enhanced Learning. At the other end are colleges and polytechnics, such as colleges of agriculture and education, where AI is only beginning to enter the curriculum and where survey respondents rate their institutions' AI capacity lowest (Section 3.4). These institutions train much of the technical workforce and are an important, and so far underserved, part of the ecosystem.

Fuller institutional profiles, covering AI history, staffing, facilities, funding and outputs, require direct engagement with institutions and are recommended as a follow-up in Section 12.4. The master list of institutions mapped by both methods is given in Appendix C.

3.4 Provisional AI Readiness Classification

To summarise institutional AI capacity, the survey items were combined into a composite index across five dimensions: AI curriculum, research environment, staff capacity, infrastructure, and linkages (Table 8). Each dimension is scored from 1 to 5, giving a total between 5 and 25 that can be read on a 100-point scale. Institutions are then placed in broad tiers rather than ranked. Because no bibliometric data were collected, the research dimension measures the research environment, namely access to funding, mentors and datasets, rather than research output.

Table 8. *Dimensions of the provisional AI readiness classification.*

Dimension	Survey items used	Max score
AI curriculum	Five teaching and learning items: adequate courses, practical learning, qualified instructors, online resources, postgraduate support	5
Research environment	Ratings of research opportunities and funding, access to supervisors and mentors, access to research datasets	5
Staff capacity	Qualified AI instructors; adequacy of teaching staff, lecturers and scientists	5
Infrastructure	Adequacy of laboratories, internet, computing, cloud, software licences, datasets, innovation spaces and technical support	5
Linkages	Number of partner types with which the institution collaborates on AI (government, research institutes, development partners, international universities, industry, NGOs)	5
Total	Sum of dimension scores, convertible to a 100-point scale	25

Table 9. *Readiness tiers.*

Tier	Score band	Meaning
Emerging	1 to 8	Minimal AI activity; introductory courses only; limited research; basic infrastructure

Tier	Score band	Meaning
Developing	9 to 15	Some structured AI programmes; growing research; moderate infrastructure
Advanced	16 to 20	Established programmes including postgraduate; active research; stronger infrastructure
Leading	21 to 25	Full AI programme suite including doctoral; high research activity; strong external links

Of the 73 institutions, the classification places one in the Leading tier, 30 in the Advanced tier, 39 in the Developing tier, and 3 in the Emerging tier (Figure 9). The median score is 14.8 out of 25, on the border between Developing and Advanced. Across dimensions, institutions score highest on staff capacity (3.36) and curriculum (3.28), and lowest on the research environment (2.28) and linkages (2.79). The pattern is the same in every sub-region: teaching capacity outpaces the conditions needed to do research.

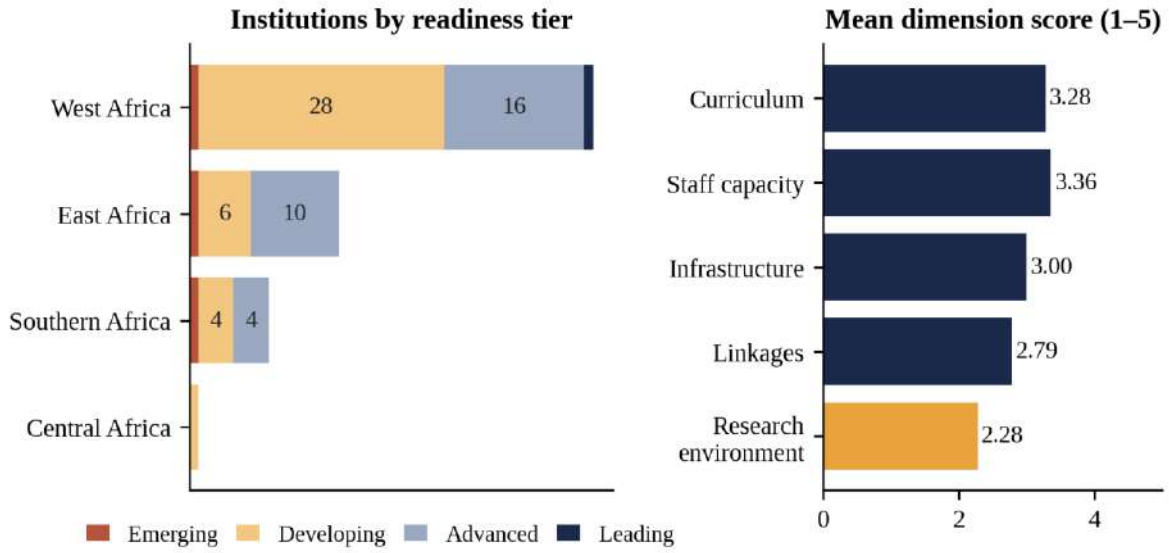


Figure 9. *Provisional readiness classification of 73 surveyed institutions by sub-region (left) and mean score by dimension (right).*

Three cautions apply. The index is built from perceptions, not audited data, and on the infrastructure scale "do not know" counts as a neutral 3, which pulls uncertain scores towards the middle. Forty-four of the 73 institutions have a single respondent, so individual scores are fragile; among the 16 institutions with three or more respondents, 5 fall in the Advanced tier and 11 in the Developing tier. And the classification is intended for capacity mapping only; it is not a ranking and is reported only in aggregate (Appendix F). It should be validated against institutional data before it is used to allocate support.

Self-rated overall capacity tells a consistent story. Weighted, respondents rate their institutions' AI capacity at 2.80 out of 5, with 39.2% in the bottom two categories and 26.9% in the top two, and they are slightly more optimistic about preparedness for AI and other frontier technologies (3.04). Differences between sub-regions are small, from 2.79 in West Africa and 2.81 in East

Africa to 2.95 in Southern Africa. The sharper divide is between institution types: research institutes average 3.05, universities 2.86, and polytechnics 2.85, while colleges average only 1.90 (Figure 10).

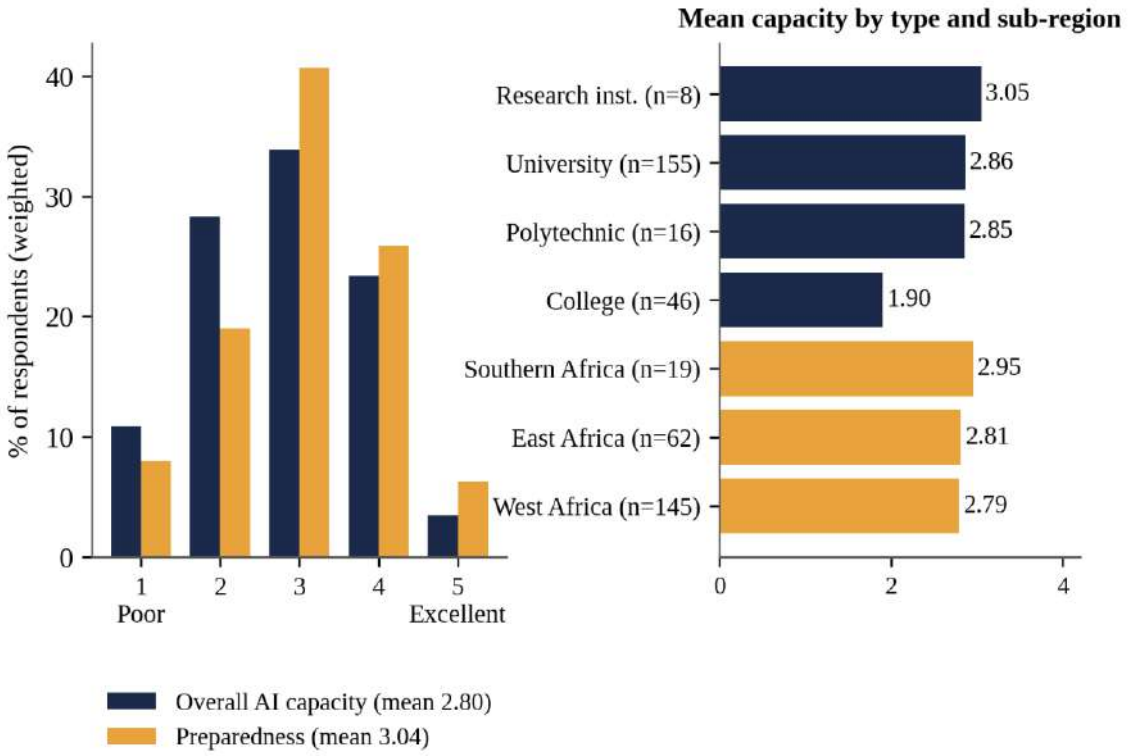


Figure 10. *Self-rated AI capacity and preparedness (left) and mean capacity by institution type and sub-region (right) (weighted; n shows unweighted respondents).*

Institutional commitment is widespread but seldom formalised. More than three in four respondents (78.0%) agree that their institution treats AI as an important strategic area, yet only 38.3% report an institutional AI strategy, 26.6% say one is under development, 24.6% say none exists and 10.5% do not know (Figure 11). The gap is remarkably consistent across sub-regions, with strategies reported by between 35.4% and 40.5% of respondents. Where a strategy exists, self-rated capacity averages 3.39, against 2.43 where one is under development and 2.50 where none exists (Figure 12). The survey cannot say which comes first, but supporting institutions to articulate an AI strategy is a plausible, low-cost lever.

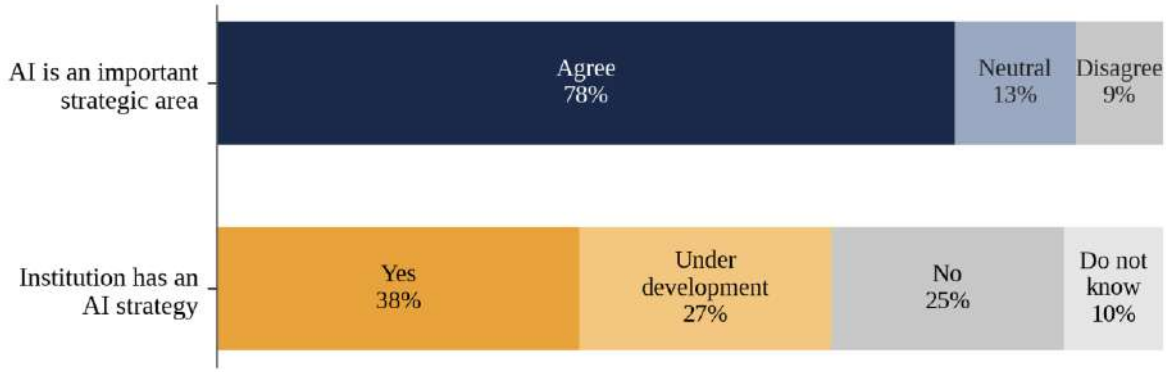


Figure 11**.** *Perceived strategic importance of AI against the reported existence of an institutional AI strategy (weighted).*

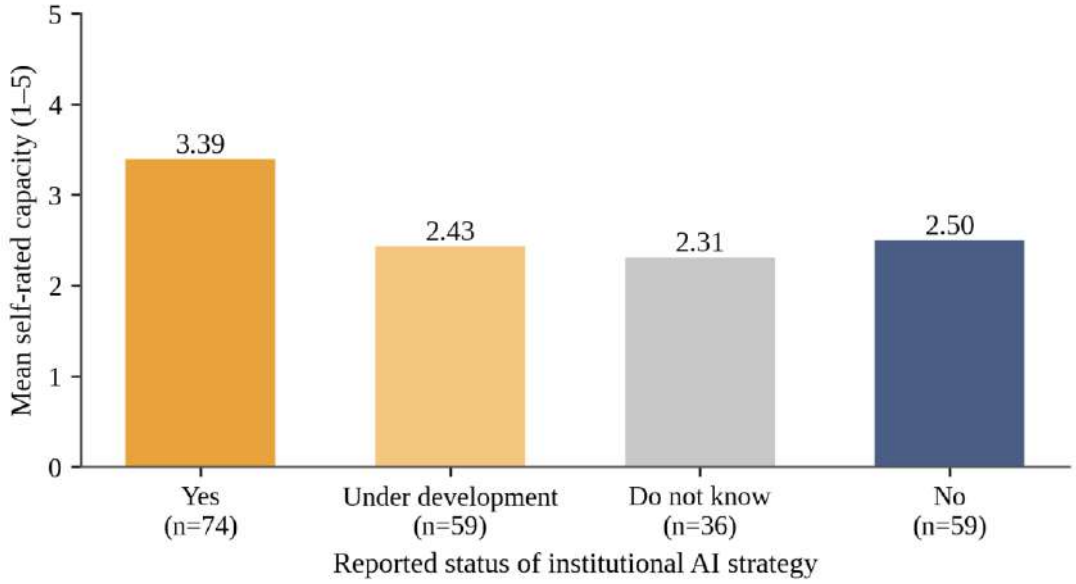


Figure 12**.** *Mean self-rated institutional AI capacity by status of the institutional AI strategy (weighted; n shows unweighted respondents).*

4. AI Curricula and Academic Programmes

This section addresses the second element of Activity 1, the curricula available, and provides the baseline for the curriculum work under Activity 4. It draws on the desk review's record of programmes and on what survey respondents report about teaching in their own institutions.

4.1 Inventory of AI Courses and Degree Programmes

Programmes were classified by the highest level of training offered (Figure 13). In sub-Saharan Africa, Master's-level training is the largest category (77 programmes, 26%), followed closely by non-degree training such as bootcamps, short courses, fellowships, and workshops (76, 26%), certificates (59, 20%), and Bachelor's degrees (54, 18%). Diplomas account for 13 programmes (4%). PhD-level training was found in only 16 programmes, or 5% of the total, slightly below the continental figure of 7% (27 of 407). Taken together, about three quarters of the region's programmes lead to a formal qualification, but doctoral capacity is the scarcest layer of provision. This is the clearest evidence for the case ARISE makes: the fellowships supported under Activity 2 address a genuine and measurable gap.

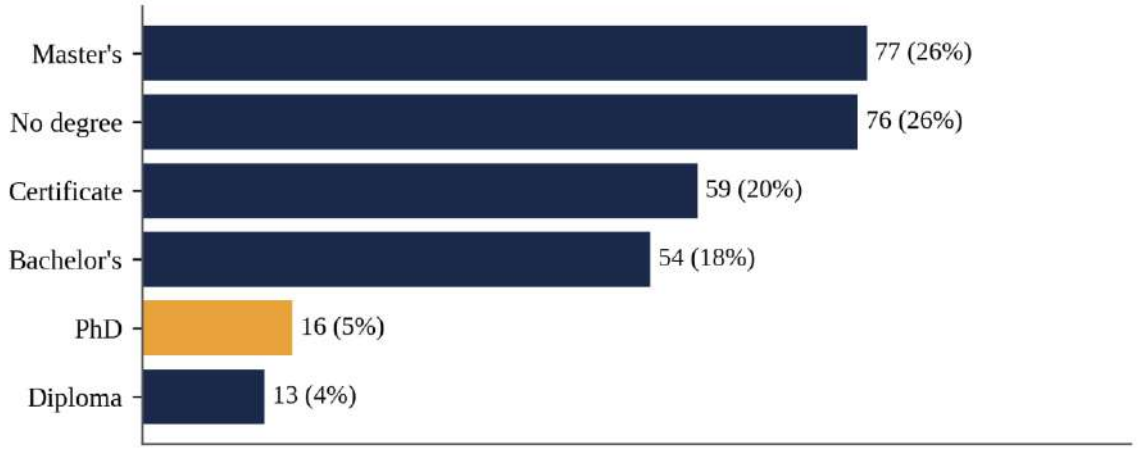


Figure 13**.** *Level of AI-related training offered in sub-Saharan Africa, number and share of programmes (desk review, n = 295).*

Most of the doctoral programmes sit within computer science, data science, mathematics or bioinformatics, with AI as a specialisation or research track: examples include PhD programmes in computer science at the University of Nairobi, Strathmore University, Makerere University and the University of Dar es Salaam, and data science doctorates at the University of Rwanda's African Centre of Excellence in Data Science and Makerere's African Centre of Excellence in Bioinformatics and Data-Intensive Sciences. After reviewing each programme title against its institution's description, the desk review identified five institutions on the continent where the doctorate is standalone and named, without qualification, as a PhD in Artificial Intelligence (Table 10). Only two are in sub-Saharan Africa, and one of those was announced for September 2026.

Table 10. *Institutions offering a standalone doctorate named in Artificial Intelligence.*

Institution	Country	Programme title	Scope
National Open University of Nigeria	Nigeria	PhD in Artificial Intelligence	SSA
Open Institute of Technology (upcoming, September 2026)*	Ghana	PhD in Artificial Intelligence	SSA
Badji Mokhtar Annaba University	Algeria	Artificial Intelligence and its Applications (PhD)	Northern Africa (reference)
National School of Artificial Intelligence (ENSIA)	Algeria	Data Sciences and Artificial Intelligence, PhD	Northern Africa (reference)
Ain Shams University, Faculty of Computers and AI	Egypt	PhD in Artificial Intelligence	Northern Africa (reference)

** A smaller private institution; this entry carries lower confidence and should be confirmed directly with the institution.*

This distinction matters for Activity 2. A fellowship strategy confined to standalone AI doctorates would have almost no programmes to work with in sub-Saharan Africa, whereas one that also engages strong computer science and data science departments has a considerably larger base of existing doctoral capacity.

A narrower register: dedicated AI degrees

The full inventory captures AI wherever it appears, including as a module or track within another discipline. A stricter question asks at how many universities AI itself is the named subject of a formal Bachelor's, Master's or PhD degree. Applying this test identifies 54 dedicated AI degrees across the continent, 40 of them in sub-Saharan Africa (Appendix D). East Africa accounts for 19 of the 40, West Africa for 15 and Southern Africa for 6; none was found in Central Africa (Figure 14). Master's degrees are the largest category (20), followed by Bachelor's degrees (16); only four are doctoral or taught-doctorate variants, two of which, in Somalia and at the University of Cape Coast's eCampus, still require further examination.

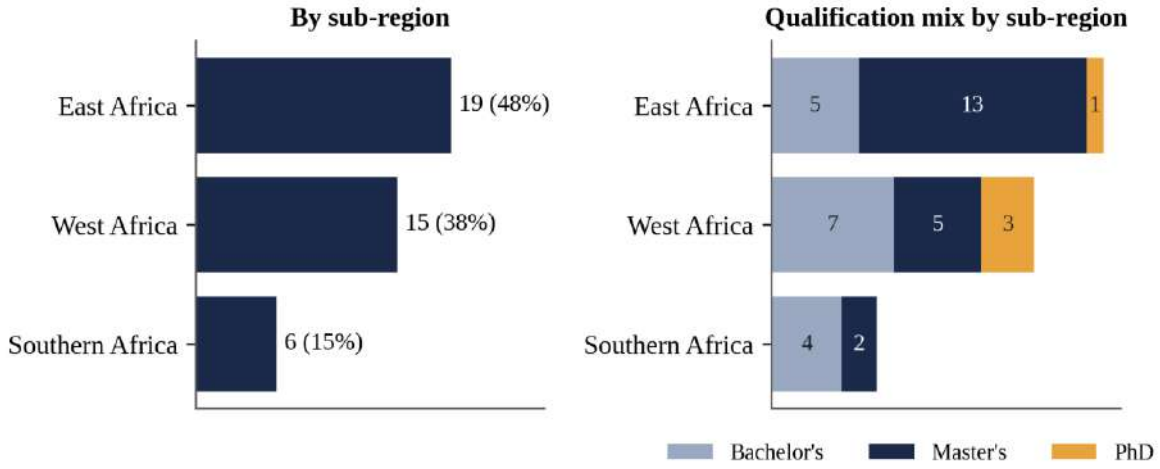


Figure 14. *Dedicated Bachelor's, Master's and PhD degrees in Artificial Intelligence in sub-Saharan Africa, by sub-region and qualification mix (n = 40).*

West Africa, though smaller in absolute numbers, has the highest doctoral share within its own total, three of 15 programmes, driven by Ghana and Nigeria, where regulators have recently

approved several new dedicated AI degrees. At country level the register is highly concentrated (Figure 15): Nigeria (7), Ghana (6) and Kenya (4) lead, and a long tail of countries contributes one or two programmes each. A strategy built only around dedicated AI degrees would therefore engage a short list of countries, not the regional footprint that the wider inventory reveals.

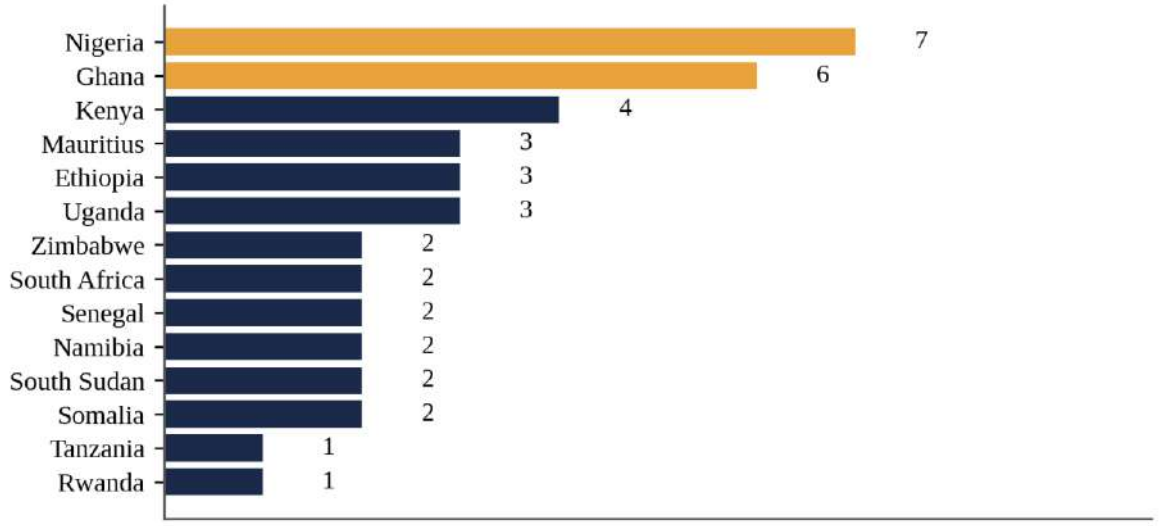


Figure 15. *Dedicated AI degree programmes per sub-Saharan country (n = 40).*

Survey respondents confirm that AI exposure is broader than the dedicated degrees alone (Figure 16). Asked which levels of AI or AI-related provision their institution offers, respondents most often cite Bachelor's (49.0%) and Master's degrees (45.7%), followed by doctoral provision (31.5%), certificates (23.6%), professional courses (16.1%) and diplomas (9.2%). Because the question explicitly includes fields such as machine learning, data science and robotics, these figures describe AI taught within broader programmes, consistent with the desk review.

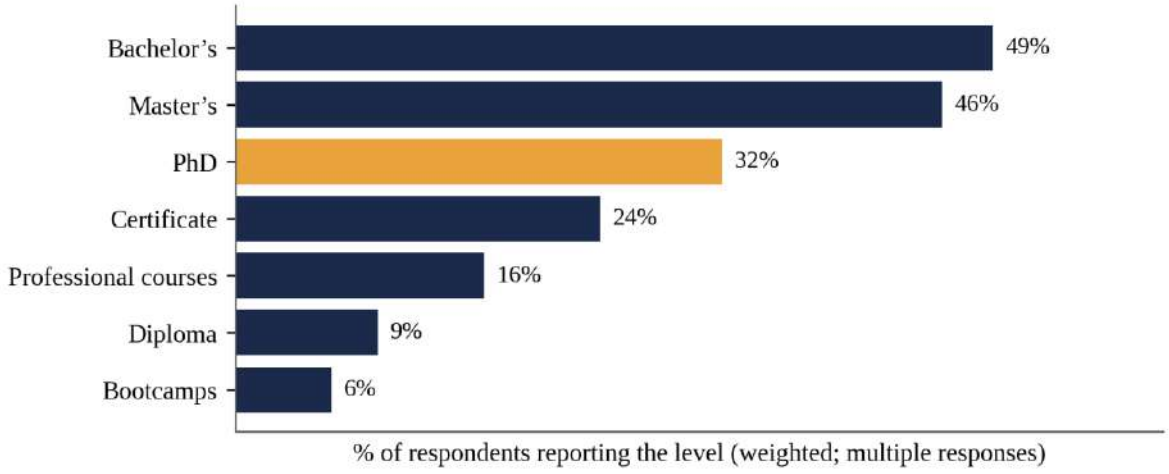


Figure 16. *Levels of AI or AI-related provision reported by survey respondents (weighted).*

4.2 Curriculum Content Analysis

Each programme was tagged with its primary area of AI focus (Figure 17). Three areas dominate in sub-Saharan Africa: general or foundational AI (104 programmes), data science and analytics (103) and machine learning (52). Together they account for 259 of 295 programmes, or 88%. AI policy and ethics is the main focus of only 12 programmes, cybersecurity and robotics of eight each, natural language processing and computer vision of two each, and health AI of one. Content can therefore be read in three bands. Commonly taught are machine learning fundamentals, data science and general AI. Rarely taught are AI ethics, responsible AI and AI policy. Almost entirely absent as programme foci are health and sector applications, African-language AI and vision, and, judging from programme descriptions, gender-responsive AI design and the integration of indigenous knowledge.

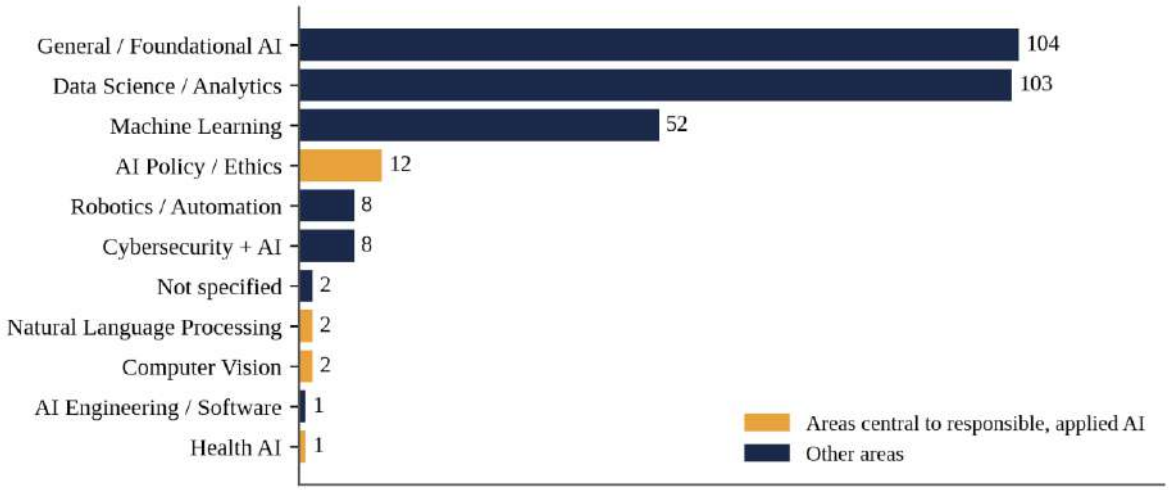


Figure 17**.** *Primary AI focus area of programmes in sub-Saharan Africa (desk review, n = 295).*

Programme descriptions may understate what is actually taught, so the survey's evidence is important. Respondents were asked what should be added to a standardised PhD curriculum in AI, and 122 offered suggestions (Table 11). Ethics, responsible AI, governance and policy is the most frequent theme (26.2%), followed by practical and engineering skills (22.1%) and domain applications (21.3%). This demand for ethics sits beside its modest priority in the forced ranking of institutional needs (30.5%; Section 10): respondents may not regard ethics as an institutional emergency, but they clearly expect it to be built into doctoral training.

Table 11**.** *Survey suggestions for a standardised PhD curriculum in AI (unweighted, n = 122).*

Theme	Share	Illustrative content proposed
Ethics, responsible AI, governance and policy	26.2%	AI ethics and governance; algorithmic bias and fairness; explainable AI; data sovereignty; gender and disability inclusion
Practical, hands-on and engineering skills	22.1%	Applied laboratories; AI engineering; coding and app development; productive use of AI tools
Domain applications	21.3%	AI in agriculture, health, climate, education and natural resource management

Theme	Share	Illustrative content proposed
Data science, statistics and research methods	19.7%	Data science and engineering; statistics; AI research methodology
Robotics, IoT and edge AI	12.3%	Robotics; Internet of Things; edge AI and tinyML
Machine learning, deep learning and generative AI	11.5%	Deep learning; NLP for low-resource African languages; fine-tuning large language models
Entrepreneurship and innovation	11.5%	Entrepreneurship; innovation and industry application

4.3 Curriculum Quality and Accreditation

The mapping did not assess curriculum quality directly; that requires review of syllabi, staffing and outcomes beyond the reach of a desk review and a perception survey. Three observations can nonetheless be made. First, national regulators are actively approving new AI programmes. In Nigeria, the National Universities Commission has approved new undergraduate AI degrees at several universities, and national qualification listings were used to verify some register entries elsewhere. Second, the desk review deliberately verified degree-granting entries against each institution's own website, so that programme titles and levels reflect official institutional terminology; several entries, notably two taught doctorates and one Somali PhD, remain flagged for further examination. Third, a number of programmes are delivered with international partners or benchmarked against them, for example Carnegie Mellon University Africa's MS in Engineering Artificial Intelligence in Rwanda and the African Master's in Machine Intelligence run by AIMS. Readers should verify admission requirements and accreditation status through the source links in Appendix D.

4.4 Teaching Methodologies and Practical Learning

Where the mode of delivery was stated, sub-Saharan programmes are delivered in person or on campus (84), in hybrid or blended form (74) or fully online (40); for 97 programmes, mostly shorter and less formally documented initiatives, the mode could not be determined. Online and hybrid delivery, including at open universities in Nigeria and Kenya, is a notable channel for widening access.

Inside institutions, views on teaching lean positive but leave a large middle ground (Figure 18). Between 46% and 56% of respondents agree with each of five teaching statements, and between 18% and 27% disagree. Practical AI learning opportunities receive the most positive assessment (56.2% agree), while support for postgraduate AI education (45.6%) and the availability of qualified AI instructors (45.9%) receive the weakest. Southern African respondents stand apart: only 26.8% agree that their institution offers adequate AI courses, against about 52% in West and East Africa. Practical learning depends on computing and data that, as Section 6 shows, many institutions lack.

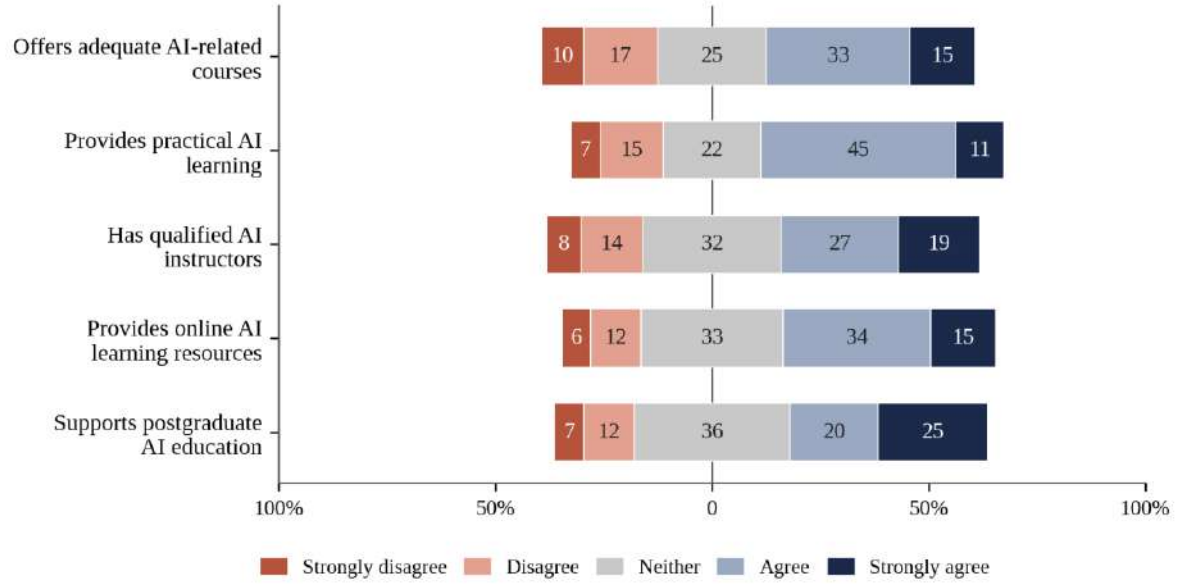


Figure 18. *Agreement with statements on AI teaching and learning (% of respondents, weighted).*

4.5 Curriculum Gaps and Opportunities

Table 12 brings the curriculum evidence together as a gap matrix to guide Activity 4. Severity reflects both the size of the gap and its relevance to ARISE's responsible and gender-inclusive mandate.

Table 12. *Curriculum gap matrix.*

Gap	Sub-regions most affected	Severity	Likely intervention
Scarcity of doctoral AI programmes (5% of programmes; two standalone AI PhDs in SSA)	All; acute in Southern and Central Africa	High	Standardised PhD curriculum (Activity 4); fellowships hosted in strong CS/DS departments (Activity 2)
Responsible AI, ethics and policy marginal in programme content (12 of 295)	All	High	Embed ethics modules in the PhD curriculum; training manual and webinars (Activity 3)
Few sector applications (health, climate), African-language and vision content	West and Southern Africa for health; all for language and vision	Medium to high	Domain-application electives; links to success stories such as Masakhane and KilimoAI
Weak support for postgraduate AI education and shortage of qualified instructors	East and Southern Africa	Medium to high	Faculty development; co-supervision through the fellowship network
Limited practical, hands-on learning where compute and data are lacking	All, especially colleges and polytechnics	Medium	Shared cloud and compute access; open datasets; applied labs in curriculum design
Colleges and polytechnics only beginning to introduce AI	West Africa (largest number of colleges surveyed)	Medium	Include non-university institutions among the ten curriculum-support beneficiaries
Gender-responsive AI design absent from programme descriptions	All	Medium	Gender module in curriculum; draw on Module 7 of the ARISE training manual

5. AI Research, Innovation and Success Stories

This section looks at the production of new AI knowledge and its translation into applications. It addresses the research dimension of Activity 1 and, in Section 5.3, the success stories recorded so far.

5.1 The Research Environment

A bibliometric count of AI publications was beyond the scope of this phase, so the mapping relies on respondents' assessment of the conditions under which research is done. These conditions receive the most negative ratings in the survey (Figure 19). A third of respondents (33.7%) rate AI research opportunities and funding as poor, and nearly two-thirds (63.5%) as poor or fair. Access to research datasets is rated poor or fair by 62.4% and access to supervisors and mentors by 55.5%. Funding is rated poor most often in East Africa (42.2%) and West Africa (37.7%), and least often in Southern Africa (21.4%). These are the conditions in which doctoral candidates must work, and they explain why mentorship and research support feature prominently in what respondents ask of ARISE.

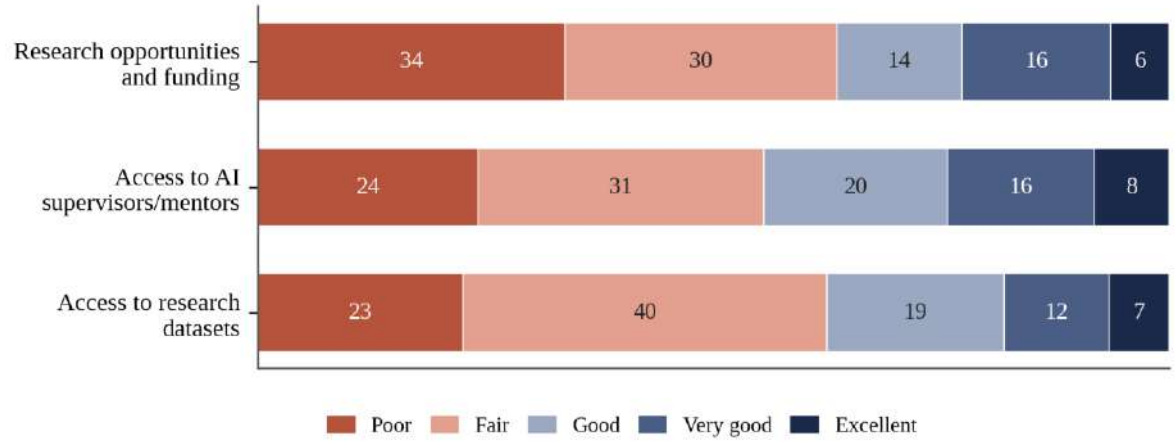


Figure 19. *Ratings of the AI research environment (% of respondents, weighted).*

Research is nonetheless active and increasingly specialised. Where institutions have AI research groups or projects, agriculture leads the application areas (66.9%), followed by education (57.4%), health (54.3%) and climate (51.1%), with language technologies and security each named by about a third of respondents. The sub-regions have distinct profiles (Figure 20). Agriculture dominates in West Africa (83.7%); health leads in East Africa (78.2%), where climate (61.8%) and language technologies (43.4%) are also prominent; and Southern African respondents report a more even spread, led by education and agriculture. Health is therefore a major research area in practice, even though it is almost absent as a programme focus in the desk review.

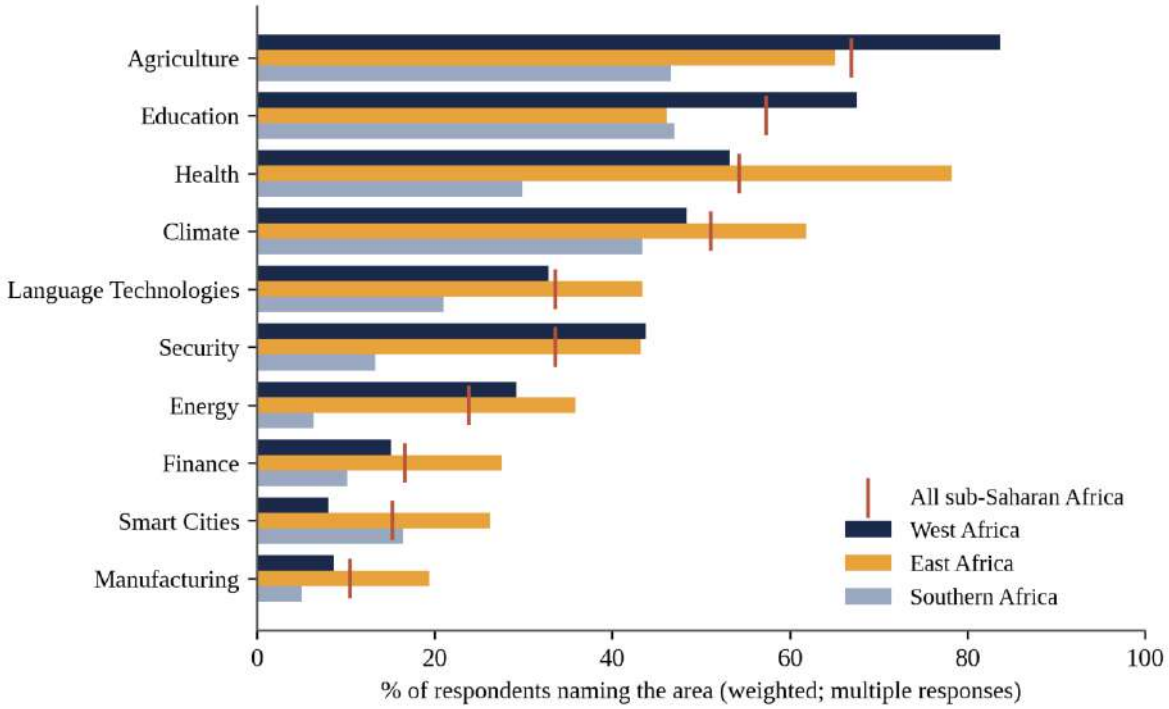


Figure 20. *Major application areas of institutional AI research groups and projects, by sub-region (weighted).*

5.2 AI Research Groups and Ongoing Projects

Of the 101 respondents who answered the question on AI research groups and ongoing projects, many named computer science or ICT departments, some reported none, and a growing number named dedicated units. Respondents mentioned, among others, an AI for Sustainable Agriculture and Rural Development group running the AI4WIA 2.0 project on AI for women in agriculture; the Institute of Intelligent Systems at the University of Johannesburg; an interdisciplinary centre of excellence in AI for development linking universities in Burkina Faso; a Beninese language-processing group; AI laboratories in engineering faculties in Nigeria; and an innovation partnership between the Technical University of Kenya and ActionLab, an AI agency under Kenya's Office of the Special Envoy on Technology. These are respondent reports and have not been independently verified, but they point to a broader research base than published material suggests.

This institutional activity sits within a well-established African research ecosystem. The Deep Learning Indaba has been the continent's leading annual AI research gathering since 2017 (Deep Learning Indaba, 2026); Masakhane is a grassroots community building NLP for African languages (Masakhane, 2026); Data Science Africa runs a long-standing network of research and training events; the African Institute for Mathematical Sciences hosts the African Master's in Machine Intelligence; and IBM Research Africa and Lelapa AI anchor industrial research. Widely recognised individuals include Vukosi Marivate, Professor of Computer Science and Absa Chair of Data Science at the University of Pretoria (University of Pretoria, 2026) and co-founder of the Deep Learning Indaba and Masakhane; Moustapha Cisse, founder of the African

Master's in Machine Intelligence; and Shakir Mohamed of Google DeepMind, a co-founder of the Indaba. ATPS should draw directly on this frontier of African-led work in designing the PhD curriculum under Activity 4. A full catalogue of ongoing projects, with funding sources and partners, could be maintained on the ATPS ICE platform as the community of practice grows.

5.3 Success Stories: From University Research to Real-World Use

Six documented cases, each originating in African university research and each in real use, were verified against at least two published sources (Table 13; Appendix G). They span environment and public health, agriculture, language technology and human-capital development.

Table 13. *Documented AI success stories from African higher education.*

Success story	Institution and country	Sector	What it does and why it matters
AirQo	Makerere University, Uganda	Environment and public health	Low-cost air-quality sensors (AirQo, n.d.) with AI calibration and forecasting, deployed in ten cities across five countries; supported by a US$1.3 million Google AI Impact Challenge award (2019) and a later US$3 million Google.org grant.
KilimoAI	Nelson Mandela African Institution of Science and Technology, Tanzania	Agriculture	Smartphone diagnosis of maize and bean diseases in Swahili; over 22,000 farmers and extension officers reached; led by a woman computer scientist; begun under AI4D Africa (IDRC, Sida).
PeMOST	Jomo Kenyatta University of Agriculture and Technology, Kenya	Agriculture and pest surveillance	AI and satellite remote sensing to forecast Tuta absoluta outbreaks for tomato growers; developed under ATPS's AI4AFS network; documented in a peer-reviewed paper (Ozor et al., 2024).
Masakhane	Distributed network of African university researchers	Language technology	Open NLP research for African languages by over 1,000 contributors from more than 30 countries; datasets and models such as AfroXLMR used across the continent.
Coach Vici	Stellenbosch University, South Africa	Human-capital development	Africa's first AI coaching chatbot; a randomised study found a 55% increase in goal attainment against 24% in a control group; commercialised as a university spin-out (Stellenbosch Business School, 2023).
Lelapa AI	University of the Witwatersrand research ecosystem, South Africa	African-language AI	Company founded by researchers linked to Wits, Masakhane and the Deep Learning Indaba; builds Vulavula and InkubaLM; led by a woman chief executive. Impact claims rest mainly on company reporting.

Three lessons recur across these cases. University research scales when it solves a problem that is visible to users and funders, whether polluted air or diseased crops. Each case relied on external finance, from international donors, philanthropy, technology companies or venture capital, rather than on institutional budgets alone. They designed inclusion in through Swahili interfaces, open models for low-resource languages, and tools aimed at people who could never afford professional services. Two of the six are led by women, a reminder that women's leadership in African AI is real, even if under-recognised (Section 7).

The survey points to a wider pool of candidates. Of the 69 respondents who answered the question on AI solutions originating in African universities, about 49 named a concrete example. They include SmartSoil and a pest-detection tool for Nsukka yellow-pepper farmers in Nigeria; AI4RPT, an AI-based rainfall prediction tool for crop advisories at prototype stage; YarnGPT, a text-to-speech tool for African languages; Cervisight and AI-based malaria diagnosis at Makerere University; agricultural optimisation models at a Ghanaian AI research centre; a virtual AI teaching system at Mount Kenya University; and an AI tool supporting science experiments at the University of Rwanda's College of Education. These are self-reported and unverified, but they suggest where the next generation of success stories, especially from West Africa, may be found.

5.4 Research Collaboration Networks

Respondents most often collaborate on AI with government (51.5%) and research institutes (48.3%), followed by development partners (39.9%) and international universities (35.3%). The success stories show what dense networks can achieve: Masakhane links more than a thousand researchers across 30 countries, and Lelapa AI's founding team spans Wits, the University of Pretoria, Brown University and the Indaba. A co-authorship network analysis was not part of this phase. The collaboration evidence is examined in more detail in Section 8.

6. Resources for AI in Higher Education

This section addresses the third element of Activity 1: the sources of resources, technical and financial, used to support AI teaching, research and development. It examines money, machines, data and people in turn.

6.1 Sources of Financial and Technical Support

The mapping did not collect funding amounts, but it shows where support comes from and how scarce it is perceived to be (Table 14). Respondents describe funding as the single most binding constraint: it is the challenge most often raised in open-ended answers (43.7%), the support they believe would have the greatest impact (51.4%), the help they most often request from ARISE (49.7%), and research funding is the second most frequently chosen priority for corrective intervention (70.8%).

Table 14. *Sources of financial and technical support for AI in African higher education identified by the mapping.*

Source	Examples from the evidence	Type of support
National governments and public institutions	Government initiatives and training programmes (43 SSA desk review entries); government is the most-cited AI collaborator (51.5%); national digital strategies such as Digital Ethiopia 2030	Programme funding; regulation and accreditation; public infrastructure
Bilateral and multilateral donors	AI4D Africa (IDRC, Sida); UNDP, UNESCO and UNHCR training; DAAD in-region scholarships; The Andrew Carnegie Foundation (ARISE)	Research grants; scholarships; capacity building
Philanthropic foundations	Mastercard Foundation Scholars Program; Google.org grant to AirQo; Grow Further support to KilimoAI	Scholarships; scaling grants
Technology companies	Microsoft, Huawei, Amazon Web Services, Samsung and Absa named as programme partners; Microsoft compute credits for InkubaLM; Google DeepMind and AIMS Master's scholarships	Certified training; cloud and compute credits; co-funded chairs and scholarships
Research networks and centres	ATPS AI4AFS network; Data Science Africa; Deep Learning Indaba; Masakhane; African Centres of Excellence	Seed funding; mentoring; shared datasets and models
Institutional budgets and fees	University-funded programmes and laboratories; fee-based professional courses	Core teaching and facilities
Venture and commercial finance	Seed investment in Lelapa AI; university spin-out route for Coach Vici	Commercialisation and scaling

The desk review shows that partnership, rather than any single institution acting alone, is already the dominant model for financing AI training. For example, Microsoft is linked to a Ghanaian government training programme for women, Huawei to certified AI training at Kenyatta University, and Absa co-funds data and AI scholarship activity in South Africa. United Nations agencies appear chiefly in connection with digital skills and refugee-focused training. Several Francophone university laboratories and regional consortia pool resources to sustain a single programme. For ARISE, this means its resources will go further if it works with and through these existing partnerships.

6.2 Physical and Digital Infrastructure

Infrastructure is where scarcity bites hardest (Figure 21). More than half of respondents (53.5%) describe AI software licences as absent or inadequate, and 45.1% say the same of cloud computing, 43.7% of computing facilities such as high-performance computing and GPUs, 41.8% of innovation spaces, 40.5% of research datasets, 40.3% of AI technical support and 39.4% of computer laboratories. Teaching staff (30.1%) and internet connectivity (26.7%) fare comparatively better. On a five-point scale with "do not know" as its midpoint, mean adequacy ranges from 2.52 for software licences to 3.60 for internet connectivity. No more than 26% describe any enabler as very adequate, and for cloud access, licences, innovation spaces and technical support the figure is 7.5% or less.

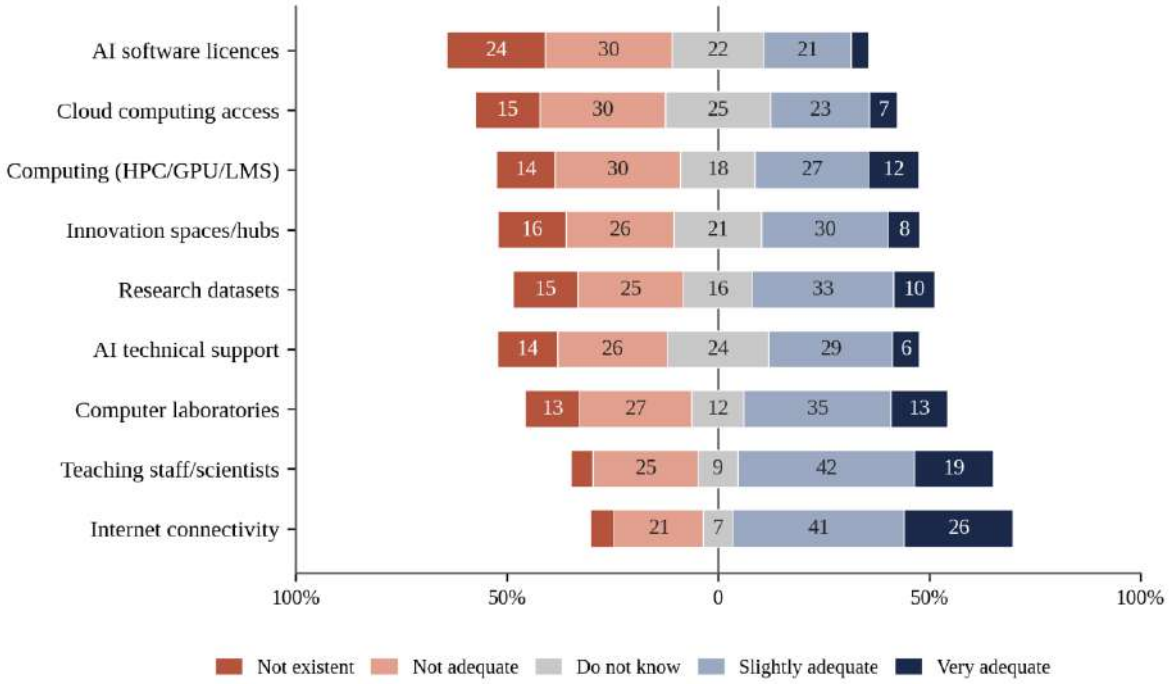


Figure 21. *Adequacy of AI enablers (% of respondents, weighted), with "do not know" treated as the neutral midpoint of the scale.*

The neutral category is largest for resources that depend on central procurement and communication: cloud access (24.8%), technical support (24.1%), software licences (21.7%) and innovation spaces (20.8%). A sizeable share of respondents cannot judge whether these exist, suggesting some resources are underused. Software licences are the most widely felt gap in every sub-region, most acutely in East Africa, where two-thirds of respondents (67.4%) describe them as inadequate; East African respondents also report the greatest shortfall in cloud access (58.9%) and computing (55.5%), while rating internet connectivity far better than elsewhere. Open-ended answers add unreliable electricity and connectivity, the everyday conditions that determine whether computing infrastructure is usable. These findings echo the UNESCO-IICBA and UNESCO-ICHEI (2026) conclusion that infrastructure is the leading constraint on AI in African higher education.

6.3 Data Availability and Data Governance

Data are the raw material of AI research, and access to them is limited. Research datasets are rated poor or fair by 62.4% of respondents and described as absent or inadequate as an institutional resource by 40.5%. Only 43.4% report that their institution has a data governance policy, 28.5% say it does not, and 28.0% are unsure. African-context datasets are being built, notably through Masakhane's open language resources and the image and sensor data collected by AirQo and KilimoAI, and respondents propose data sovereignty as a topic for the PhD curriculum. This phase of the mapping did not document formal data-sharing agreements between institutions.

6.4 Human Resources: Academic and Technical Staff

Respondents rate people most favourably, though not generously. 30.1% describe teaching staff as absent or inadequate, and only 45.9% agree that their institution has qualified AI instructors. Respondents reported a median of five academic staff working in AI or AI-related faculties such as computer science and data science (166 answers), and a median annual PhD intake of six (141 answers); these numeric fields were sparsely and inconsistently completed and should be read as indicative only. One in five open-ended answers on challenges cited a shortage of skilled staff and expertise (20.0%), and 34.8% chose faculty development as a priority. The proportion of women among AI staff and their international experience were not collected and remain gaps for future work.

7. Gender, Equity and Inclusion in AI Higher Education

Gender-inclusive AI is central to ARISE's purpose, so gender evidence from every part of the mapping is consolidated here. The evidence is strongest on perceptions and institutional provision and weakest on participation rates, which neither method could measure.

7.1 Women's Participation in AI Programmes

Neither public programme descriptions nor the survey yield reliable sex-disaggregated enrolment or completion figures, and no trend data for 2020 to 2025 could be assembled. This gap is itself a finding: without routine gender-disaggregated data, institutions cannot track whether women's participation is improving. Two indicators give partial insight. Some programmes are explicitly designed for women, including scholarship and training schemes such as AWITAI, African Women in Tech and AI, WeCode and ElevateHer, a doctoral and early-career scholarship for women in AI and machine learning under AI4D, and a Microsoft-linked government training programme for women in Ghana. In ARISE's own fellowship call, women made up 45.5% of the PhD shortlist but only 30.8% of the postdoctoral shortlist, suggesting the pipeline narrows as careers advance.

7.2 Women as Researchers and Academic Staff

With few exceptions, the individuals most frequently cited as leaders of Africa's AI ecosystem are men. That does not mean women are absent from AI leadership. Dr Nyalleng Moorosi, a Lesotho-born senior researcher at the Distributed AI Research Institute and a founding member of the Deep Learning Indaba, is internationally recognised for her work on algorithmic fairness (Iyer, 2024). Dr Chinasa T. Okolo, founder of Technecultura, contributed to both the African Union Continental AI Strategy and Nigeria's national AI strategy and was named by *TIME* among the 100 most influential people in AI. Dr Rachel Adams, founder of the Global Center on AI Governance, leads the Global Index on Responsible AI, and Pelonomi Moiloa, chief executive of Lelapa AI, leads African-language AI development. Dr Neema Mduma of NM-AIST, who leads KilimoAI, is another example from within a university. However, mentoring for women is scarce: only 36.9% of respondents report adequate mentoring opportunities for women in AI, and this falls to 18.3% in Southern Africa. The proportion of AI faculty who are women, by seniority, was not collected.

7.3 Structural Barriers to Women's Participation

Respondents identify resource barriers first (Figure 22). Funding (63.1%) and limited training opportunities (62.9%) lead, followed by limited awareness (49.2%), lack of mentors (47.3%), and family responsibilities and limited infrastructure (44.8% each). About one respondent in four (25.6%) named gender bias.

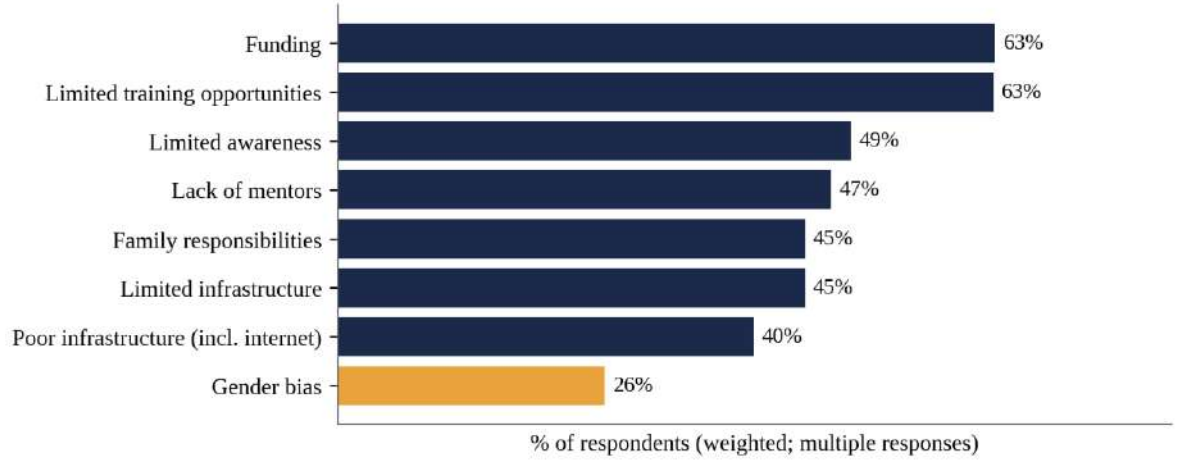


Figure 22. *Perceived barriers to women's participation in AI (weighted; multiple responses).*

The overall picture contains a paradox. On the principle of equality, respondents are largely reassured: 82.7% agree that women have equal opportunities to participate in AI research, and only 3.0% disagree. On provision, the picture reverses (Figure 23). While 64.6% report an institutional gender policy, only 41.2% believe AI programmes include under-represented groups, 36.9% report adequate mentoring for women, and just 21.4% report AI scholarships for women, while 36.7% say there are none and 41.8% cannot say.

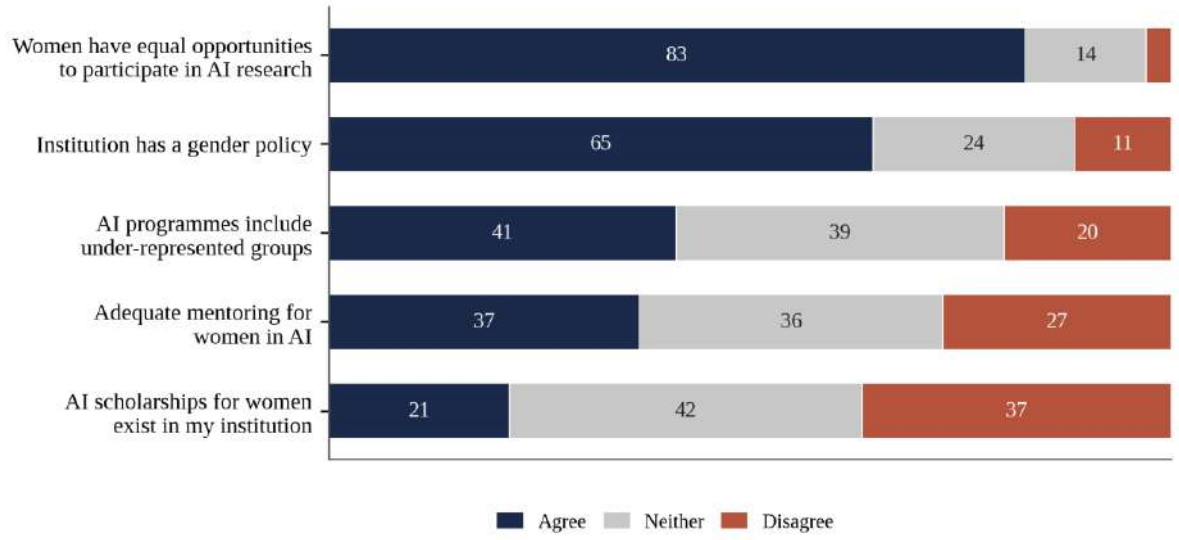


Figure 23. *Agreement with statements on gender and inclusion in AI (% of respondents, weighted).*

Of the 88 respondents who answered the gender question, 29 women, 52 men, and seven preferred not to say, showing that the paradox divides along gender lines (Figure 24; unweighted). Nine in ten men (90.4%) agree that women have equal opportunities in AI research, against two-thirds of women (65.5%), a difference unlikely to be due to chance (Fisher's exact test, $p = 0.015$). Men are about twice as likely as women to report AI scholarships for women (30.8% against 13.8%) and adequate mentoring (40.4% against 20.7%); with samples of this size, these two differences fall just short of conventional significance. Women are far more likely to name funding (82.8% against 53.8%, $p = 0.015$)

and limited awareness (62.1% against 36.5%, p = 0.037) as barriers, and they rate their institutions' AI capacity lower (2.55 against 2.96).

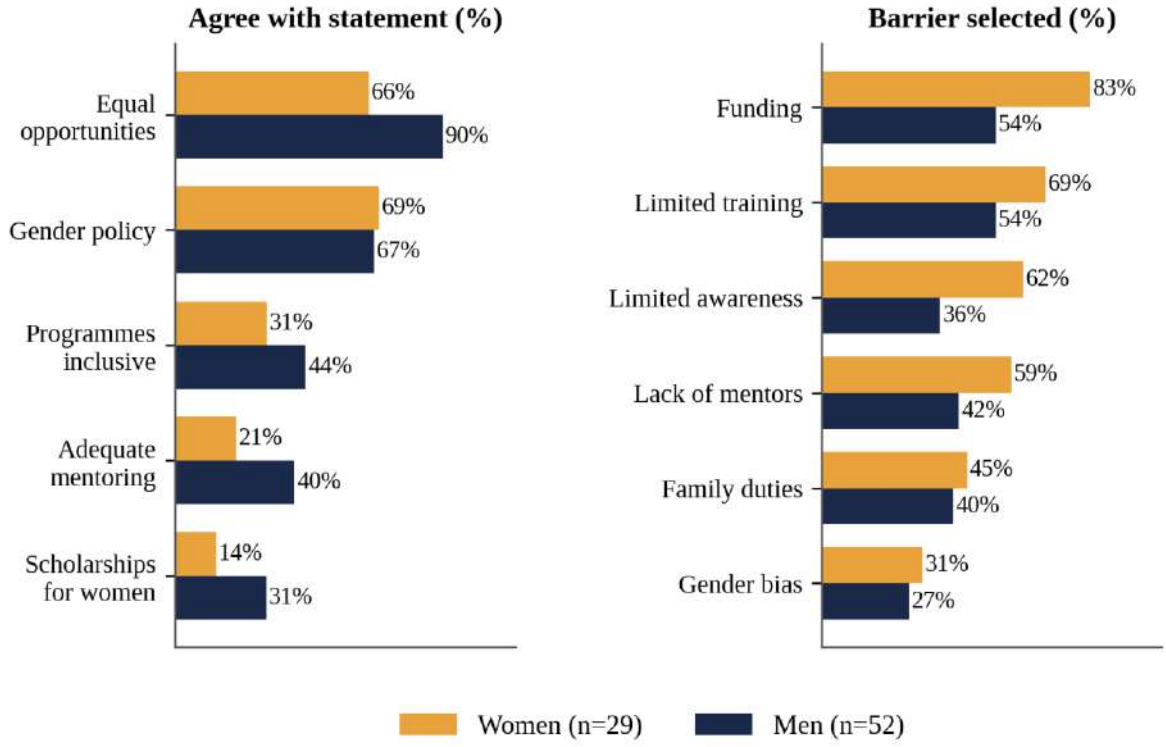


Figure 24. *Perceptions of gender and inclusion, and barriers selected, by respondent gender (unweighted; respondents identifying as a woman or a man).*

Generalised cautiously, these results suggest that men's views inflate the overall endorsement of equal opportunity, and that the women ARISE seeks to reach experience the support gap more sharply than aggregate figures imply. The barriers women name are concrete, addressable, and include funding, training, and mentors.

7.4 Institutional Policies and Practices on Gender

Formal policy is more common than practical support. Nearly two-thirds of respondents (64.6%) report an institutional gender policy, but scholarships, mentoring schemes and inclusive programme design lag well behind (Figure 23), and support is thinnest in Southern Africa, where only 12.8% report scholarships for women. Neither method could link specific institutional practices to higher women's participation because participation rates were unavailable. The instruments did not cover gender-disaggregated data systems or safe reporting mechanisms, which are recommended for future rounds.

7.5 Disability, Socioeconomic Status and Intersectional Equity

Evidence on disability and socioeconomic access is almost entirely missing, and the report notes this gap. The survey did not ask about disability, and only 41.2% of respondents believe their institution's AI programmes include under-represented groups. The desk review found

promising AI research for persons with disabilities, including South African Sign Language recognition and Deaf-focused communication tools at the University of the Western Cape and the University of the Witwatersrand, but these remain at research or prototype stage. Several success stories show how design can widen access: KilimoAI for farmers with basic phones and low digital literacy, Masakhane and Lelapa AI for speakers of languages ignored by mainstream AI, and Coach Vici for young graduates and small business owners. For ARISE's monitoring and evaluation, disability and socioeconomic indicators should be built into fellowship and training data collection from the outset.

8. Linkages with Industry and Other Actors

This section addresses the fourth element of Activity 1: the linkages between higher education institutions and the users and funders of AI knowledge in industry, government, civil society and international research networks. It also supports the expected Activity 1 outcome of increased collaboration among academia, industry, and government.

8.1 Nature and Quality of Industry–University AI Partnerships

Industry is the weakest link in the ecosystem. Only 15.2% of respondents report AI collaboration with industry, compared with 51.5% with government, 48.3% with research institutes, 39.9% with development partners, and 35.3% with international universities; non-governmental organisations are cited by 11.3%. Respondents recognise the gap: 34.9% choose industry partnerships as a priority for corrective intervention. Table 15 sets out the types of industry linkage the mapping found, from the most informal to the most structured.

Table 15. *Types of industry–university AI linkage found in the mapping.*

Type of linkage	Examples	Assessment
Vendor certification and training	Huawei-certified AI training at Kenyatta University; Microsoft Azure data science pathways; AWS and Generation programmes in Ghana	Widespread and practical, but tied to a vendor's technology stack
Co-funded chairs and scholarships	Absa Chair of Data Science at the University of Pretoria; Absa-supported data and AI scholarships	Durable where endowed; few in number
Compute and cloud credits	Microsoft AI for Good Lab credits used to train InkubaLM	High value given infrastructure gaps; usually short-term
Joint research and pilots with users	PeMOST pilot with Kathaana Vegetable Growers; KilimoAI with extension services	Strong relevance; depends on project funding
University spin-outs and start-ups	Coach Vici via Stellenbosch's Innovus; Lelapa AI from the Wits and Masakhane ecosystem	Rare but the clearest route from research to use
Industry investment in African AI firms	BioNTech's acquisition of InstaDeep (BioNTech SE, 2023); seed investment in Lelapa AI	Signals commercial value; benefits to universities indirect

8.2 International Research Partnerships

International linkages are more common than industry ones. Over a third of respondents (35.3%) collaborate with international universities. Prominent models include Carnegie Mellon University Africa's engineering AI programme in Kigali, the AIMS network and its African Master's in Machine Intelligence across campuses in Rwanda and Senegal, and Google DeepMind-supported Master's scholarships. The Deep Learning Indaba and Masakhane integrate African researchers into global AI networks while keeping leadership on the continent. Institutions in East and Southern Africa appear best integrated, based on programme locations and the success stories found.

8.3 Government and Public Sector Engagement

Government is the most frequently cited AI partner (51.5%), and government initiatives account for 43 of the region's desk review entries. Engagement ranges from regulators approving new AI degrees, as Nigeria's National Universities Commission has done, to national digital strategies that frame university activity, such as Digital Ethiopia 2030, and to agencies that partner directly with universities, such as the ActionLab collaboration reported by the Technical University of Kenya. Academic experts also contribute to national and continental strategy, as shown by contributors to the AU Continental AI Strategy and Nigeria's national strategy. Secondments and formal curriculum advisory roles were not systematically documented.

8.4 Technology Transfer and Spin-Off Activity

Documented cases of AI research being commercialised or transferred into everyday use remain few, and they cluster in Eastern and Southern Africa. Coach Vici is a registered spin-out of Stellenbosch University's technology transfer office; AirQo grew from a Makerere research project into a platform used by city and national authorities; KilimoAI and PeMOST moved from funded research into farmers' hands; and Lelapa AI turned university-linked language research into commercial products. Formal technology transfer offices, intellectual property frameworks, and incubation support appear underdeveloped in most institutions, and 41.8% of respondents describe innovation spaces as absent or inadequate.

9. Policy and Regulatory Environment for AI in Higher Education

Policy shapes what institutions can do, and responsible AI depends on governance that people know about and use. This section contributes to Specific Objective 5 and sets out the evidence at continental, national and institutional levels.

9.1 Continental and Regional AI Frameworks

The African Union's Continental Artificial Intelligence Strategy (2024) is the principal continental framework. It prioritises cultivating AI competencies among students and educators and calls for ethical, inclusive AI that serves African development. ARISE's Activity 5 is designed to support national and regional policies that align with this strategy. This phase did not include a systematic review of regional economic community frameworks in ECOWAS, the EAC, SADC, and ECCAS, but recommends it as background for the ARISE policy briefs.

9.2 National AI Policies and Strategies

National readiness is concentrated. The Oxford Insights Government AI Readiness Index 2025 identifies Kenya, South Africa, Rwanda and Mauritius as a comparatively AI-ready cluster in East and Southern Africa, while most African countries remain below the global median on infrastructure and AI-development indicators (Oxford Insights, 2025). The countries that lead the mapping's programme counts largely coincide with this cluster, plus Nigeria and Ghana, suggesting that national investment in AI policy, infrastructure and digital skills is connected to, rather than independent of, higher education provision. Convergence AI (2026) maintains a weekly-updated, country-level view of national AI strategies and capacity indicators across more than fifty African countries, which ATPS can draw on for a country-by-country inventory (Appendix E lists the countries covered by this mapping).

9.3 Higher Education Policies and Their AI Relevance

Higher education regulators are already shaping AI provision. Nigeria's National Universities Commission has approved new AI degrees, and other national qualification frameworks list AI qualifications, showing that regulatory routes for AI programmes exist. The mapping did not identify explicit regulatory barriers, but the scarcity of doctoral AI programmes, and the reliance of most provision on tracks within other disciplines, suggest that frameworks for approving and accrediting new interdisciplinary doctoral programmes deserve attention in ARISE's curriculum and policy work.

9.4 Ethical and Responsible AI Governance in Institutions

Institutional governance of AI is defined as much by uncertainty as by its presence or absence (Figure 25). For each of five governance instruments, between a third and two-fifths of

respondents answer “yes”: 38.1% for AI ethics guidelines, 43.5% for a research ethics committee addressing AI, 43.4% for a data governance policy, 33.3% for an AI policy and 37.1% for privacy guidance. Between 27% and 33% answer “no”, and between 28% and 34% are unsure. Uncertainty is highest in Southern Africa, where 44.6% do not know whether AI ethics guidelines exist. When asked how well responsible AI is currently addressed, respondents give an average rating of 3.0 out of 5; 31.5% rate it poorly and 28.2% rate it well.

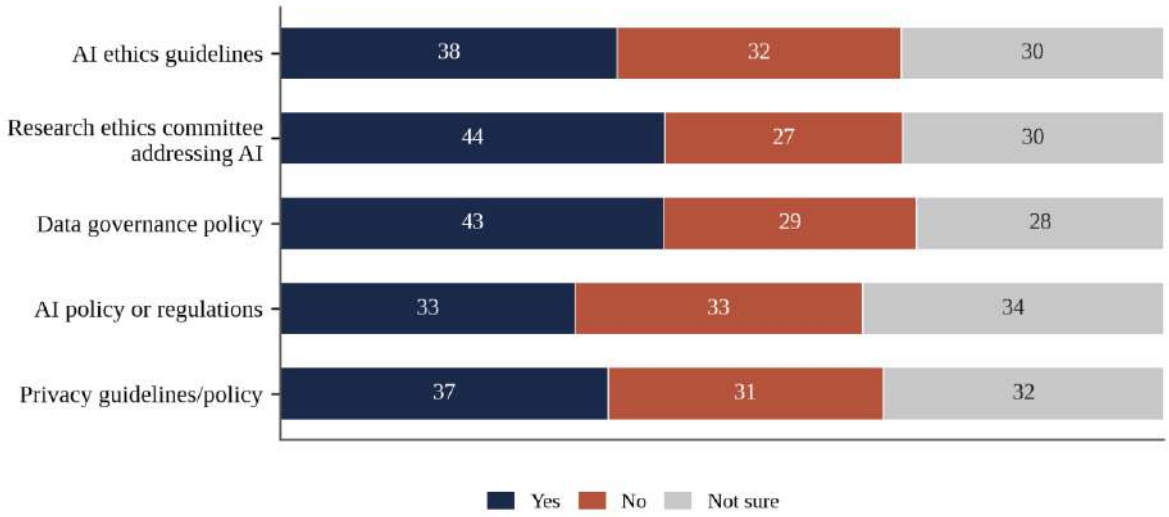


Figure 25. *Respondents’ knowledge of institutional AI governance instruments (% of respondents, weighted).*

Two cautions apply. Nearly half of respondents (47.9%) gave the same answer to all five governance items, and colleagues at the same institution often disagreed. Together, these patterns point less to a lack of policy than to its invisibility. That is an actionable finding for ARISE: awareness and induction are cheaper to provide than new policy, and the ARISE webinar series, training and workshops are natural vehicles. The marginal place of ethics and policy in programme content (Section 4.2) and the strong demand for ethics in the PhD curriculum point in the same direction.

10. Challenges, Capacity Gaps and Priority Needs

This section is the actionable core of the report. It brings together the challenges encountered so far and the capacity needs identified (the final two elements of Activity 1), and distinguishes gaps ARISE can help close from those that require longer-term structural responses.

10.1 Challenges Encountered So Far

In their own words, respondents describe a consistent set of challenges (Figure 26). Asked what most limits AI education and research, 43.7% mention funding and 41.6% mention infrastructure, laboratories or equipment; one in five (20.0%) mentions a shortage of skilled staff and expertise. A smaller but persistent group points to unreliable internet and electricity, and others describe attitudinal and policy obstacles, from the absence of an institutional AI policy to resistance from senior academics and what one respondent called “fear and uncertainty over what it means to teach and learn in the age of AI”.

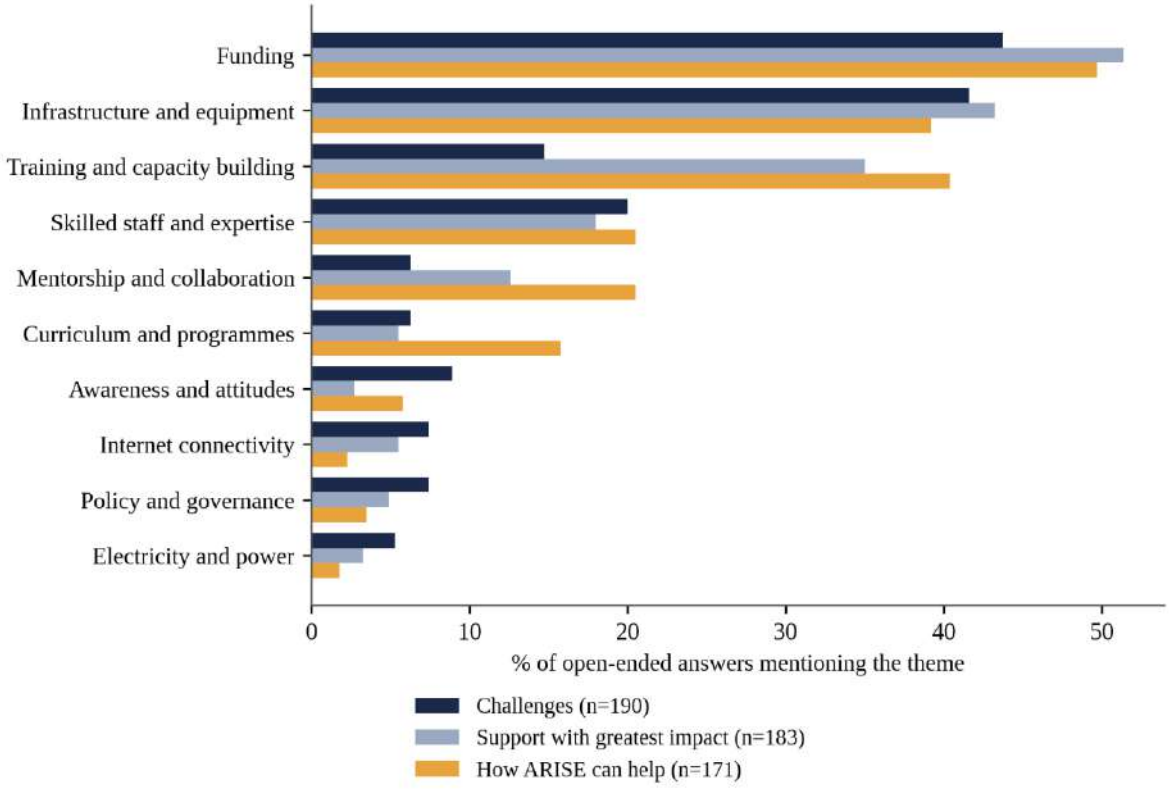


Figure 26. *Themes in open-ended answers on challenges, the support with greatest impact, and how ARISE can help (unweighted).*

Table 16. *Principal challenges encountered by AI-active institutions in sub-Saharan Africa.*

Challenge	Key evidence	Section
Inadequate funding for AI research and training	63.5% rate research opportunities and funding poor or fair; funding the top barrier for women (63.1%) and the most common open-ended challenge (43.7%)	5.1, 6.1, 7.3
Infrastructure deficit: licences, cloud, computing, labs	53.5% report software licences absent or inadequate; 39–45% for cloud, computing, datasets, hubs, support and labs	6.2

Challenge	Key evidence	Section
Thin doctoral pipeline and supervision	5% of programmes at PhD level; two standalone AI doctorates in SSA; 55.5% rate access to mentors poor or fair	4.1, 5.1
Invisible governance of responsible AI	28–34% unsure whether ethics, data or privacy instruments exist; ethics in 12 of 295 programmes	4.2, 9.4
Weak industry linkage and commercialisation	15.2% collaborate with industry; few spin-outs, concentrated in East and Southern Africa	8.1, 8.4
Gender support gap	21.4% report AI scholarships for women; 65.5% of women versus 90.4% of men affirm equal opportunity	7.3
Unequal capacity across institution types	Colleges rate capacity at 1.90 against 2.86 for universities	3.4
Limited visibility of Central and Francophone Africa	One Central African programme in the desk review; 17 Francophone survey respondents	3.1, 11

10.2 Critical Gaps in Human Capacity

The deepest human-capacity gap is at doctoral level. Only 16 of the region's 295 programmes train at PhD level; few doctorates are named in AI, and respondents describe weak access to supervisors and mentors. A second gap concerns doctoral researchers who combine technical skill with domain knowledge in health, agriculture, climate, and language, which respondents name as research priorities. A third concerns women in advanced AI training, whose share narrows between the PhD and postdoctoral stages. A fourth concerns AI ethics and policy experts: programmes rarely focus on ethics and policy, yet respondents rank them first in the PhD curriculum they want.

10.3 Curriculum and Programme Gaps

Ranked by severity, the curriculum gaps identified in Section 4.5 are: the scarcity of doctoral AI programmes outside a few countries; the marginal place of responsible AI, ethics and policy; the weakness of postgraduate support and qualified instructors; the limited integration of sector and African-context applications, including African-language AI; and inadequate practical training where compute and data are lacking. AI curriculum is the third most frequently chosen priority for corrective intervention (66.3%), so Activity 4 enters with clear demand.

10.4 Infrastructure and Resource Gaps

Respondents describe infrastructure and funding gaps as the largest, but not all are within ARISE's reach. Table 17 separates what the project can address directly from what requires longer-term structural action by governments, institutions and partners.

Table 17. *Infrastructure and resource gaps: what ARISE can address and what requires structural solutions.*

Gap	Addressable within ARISE	Requires longer-term structural action
Computing, cloud and software licences	Training on free and low-cost cloud and compute resources; brokering access through partners; fellow-level research support	Institutional and national investment in shared HPC and GPU capacity; negotiated academic licensing
Research funding	16 fellowships; conference and relocation support; showcasing fundable success stories	Dedicated national research funds for AI; diversified donor and industry finance
Research datasets	Promoting open African datasets and data-sharing norms in training and curriculum	Institutional data-sharing agreements; national data infrastructure
Electricity and connectivity	None directly; documentation in policy briefs	National energy and broadband investment
Innovation spaces and technical support	Linking fellows to existing hubs and networks through the ICE platform	Institutional investment in hubs, technology transfer offices and technical staff

10.5 Institutional and Governance Gaps

Most institutions regard AI as strategic but lack a formal AI strategy (38.3% report one), and those with strategies report markedly higher capacity. Further institutional gaps include quality assurance specific to AI programmes, gender mainstreaming beyond formal policy, and visible data governance. Each is relatively inexpensive to address compared with infrastructure.

10.6 Policy and Regulatory Gaps

At the policy level, the priorities are threefold: national frameworks that fund and share AI computing and research infrastructure; alignment of national and institutional strategies with the AU Continental AI Strategy, especially in countries outside the AI-ready cluster; and accreditation routes for new interdisciplinary AI doctorates. Evidence from regional economic communities was not reviewed in this phase.

10.7 Capacity Needs as Stated by Respondents

Asked to choose the five areas most in need of corrective intervention over the next two years, respondents put AI laboratories first (74.8%), followed by research funding (70.8%), AI curriculum (66.3%) and computing infrastructure (47.5%), then student scholarships (35.3%), industry partnerships (34.9%) and faculty development (34.8%) (Figure 27). The areas ARISE addresses most directly fall into three groups. Research funding and curriculum rank high: ARISE funds the doctoral and postdoctoral research of its 16 fellows, supports researchers to attend international conferences, and addresses curriculum directly through Activity 4. Student scholarships (35.3%), which ARISE provides to ten PhD scholars, rank in the middle, followed by faculty development (34.8%) and AI ethics (30.5%). Policy support (23.1%), PhD training (21.2%), postdoctoral fellowships (17.7%) and gender inclusion (14.9%) rank low. The

contrast is instructive: respondents attach high priority to research funding and give moderate weight to scholarships, but much less to the doctoral and postdoctoral fellowships through which ARISE delivers both.

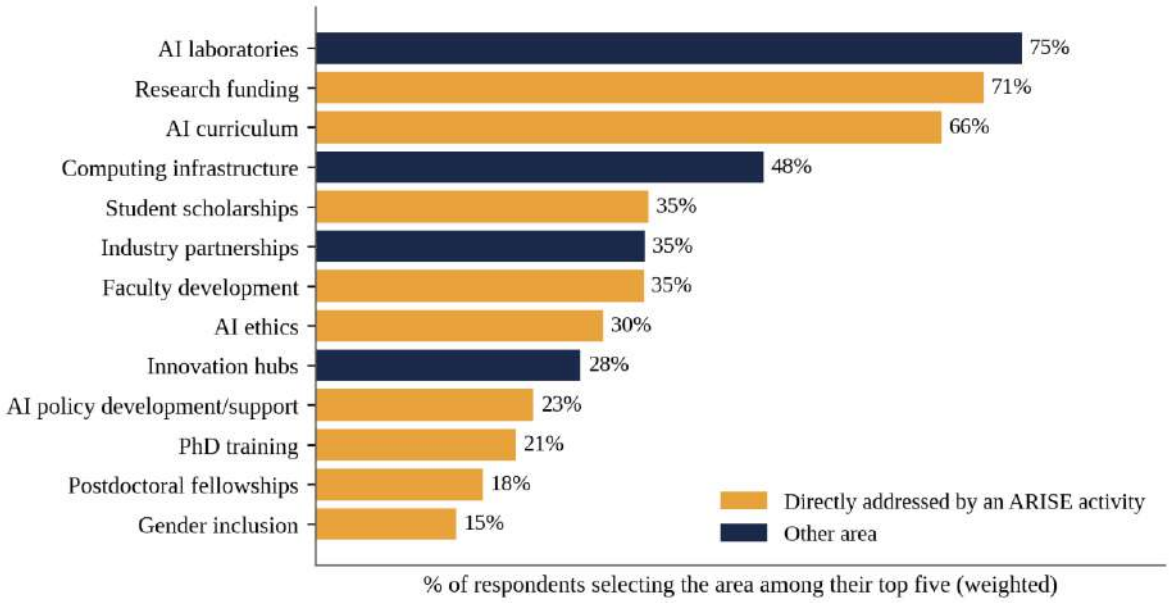


Figure 27**.** *Areas selected for immediate corrective intervention within the next two years (top five per respondent, weighted).*

A forced choice of five naturally favours tangible assets, and fellowships benefit individuals rather than whole institutions, so this ranking should not be over-read. When asked what ARISE in particular could do, respondents shift towards what the project can offer: funding remains the most common request (49.7%), but training and capacity building rises to second place (40.4%), and requests for skilled staff, mentorship and collaboration (20.5% each) and curriculum support (15.8%) become more frequent. The value of doctoral training, ethics and gender inclusion is not self-evident to many of the people ARISE seeks to reach, and the project's communication should present them as part of the answer to needs respondents do prioritise: trained doctoral researchers make a new laboratory productive, and ethical practice makes AI applications trusted and adopted.

10.8 Opportunity Areas

Conditions for rapid growth are strongest in four kinds of settings. First, countries with dense programme portfolios and active policy, notably Kenya, Nigeria, South Africa, Rwanda, Ghana and Uganda, where fellows can find supervision and peers. Second, institutions with demonstrated translation from research to use, such as Makerere, NM-AIST, JKUAT and Stellenbosch, whose models can be replicated. Third, pan-African networks, Masakhane, the Deep Learning Indaba, Data Science Africa, and AIMS, that ARISE can join rather than duplicate. Fourth, many colleges and polytechnics rate their capacity low but are eager to build it, where modest curriculum and training support could have an outsized effect. ATPS's own

AI4AFS network, national chapters in 32 countries and the ICE platform provide the connective tissue to catalyse collaboration among these actors.

11. Country and Regional Analysis

This section summarises the evidence by sub-region in plain language, for national chapter coordinators, government counterparts and institutional partners. Figure 28 compares eight headline survey indicators across the three sub-regions with enough respondents to report. On most, the sub-regions are close, supporting a sub-Saharan picture rather than the sum of distinct national stories; Southern African estimates rest on 19 respondents from nine institutions and should be treated as suggestive.

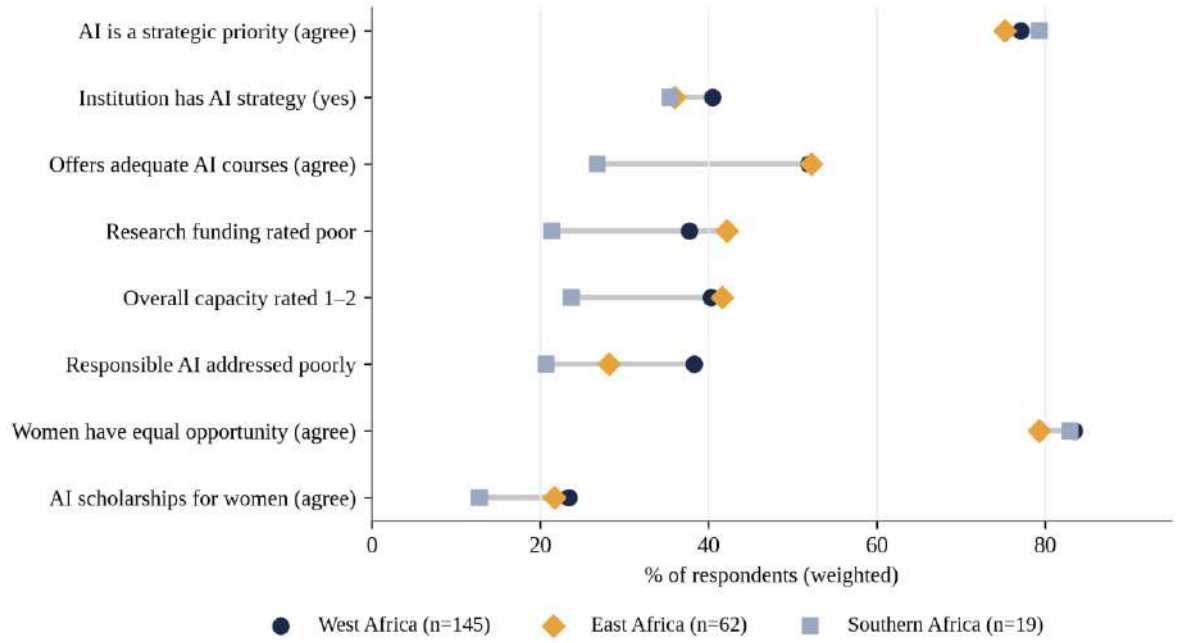


Figure 28. *Headline survey indicators by sub-region (weighted).*

11.1 Eastern Africa

Eastern Africa is the region's centre of gravity for AI higher education. It accounts for 163 desk review programmes, 19 of the 40 dedicated AI degrees in sub-Saharan Africa, and 66 survey respondents from 17 institutions. Kenya has the most programmes on the continent (71), including Master's degrees in AI at JKUAT, Kabarak University, and the Open University of Kenya; a Bachelor's in AI and Robotics at USIU-Africa; and strong computer science doctorates at the University of Nairobi and Strathmore. Uganda (24) and Rwanda (20) follow; Rwanda hosts Carnegie Mellon University Africa, AIMS and the University of Rwanda's African Centre of Excellence in Data Science. Ethiopia (17) has Master's degrees in AI at AASTU, Haramaya and Jimma universities, and Tanzania (13) is home to NM-AIST, where KilimoAI was developed. Three of the six documented success stories are East African.

Survey respondents in the sub-region report the sharpest shortages of software licences (67.4% inadequate), cloud access (58.9%), and computing (55.5%), alongside comparatively good internet connectivity and the highest share rating research funding as poor (42.2%). Support

for postgraduate AI education is rated more positively (53.2% agree) than elsewhere. Health (78.2%), climate (61.8%) and language technologies (43.4%) lead research applications.

Table 18. *Eastern Africa country spotlights.*

Country	Desk review programmes	of which PhD level	Dedicated AI degrees	Survey respondents (institutions)
Kenya	71	3	4	20 (10)
Uganda	24	3	3	1 (1)
Tanzania	13	2	1	0 (0)
Ethiopia	17	2	3	5 (4)
Rwanda	20	2	1	40 (2)

11.2 Western Africa

Western Africa has 79 desk review programmes and 15 dedicated AI degrees, and supplied most survey respondents (153, from 46 institutions). Nigeria leads with 48 programmes and seven dedicated degrees, many recently approved by the National Universities Commission, and hosts the region's only documented standalone PhD in AI PhD at the National Open University of Nigeria. Ghana (18 programmes, six dedicated degrees) is the other anchor, with AI degrees at Academic City, Tamale Technical University, the University of Cape Coast and Wisconsin International University College, and a PhD in AI announced at the Open Institute of Technology. Senegal’s dedicated Master’s programmes at the Dakar Institute of Technology, the Université Numérique Cheikh Hamidou Kane, and the AIMS campus give the sub-region a Francophone foothold; Benin and Burkina Faso contributed 14 survey respondents. No AI programme or survey response was found for Côte d’Ivoire, likely because public, English-language sources limit what we can see, not because of what is happening on the ground.

Agriculture dominates West African research applications (83.7%). The sub-region has the highest share of respondents reporting an institutional AI strategy (40.5%) and the highest share rating responsible AI as poorly addressed (38.3%). It also includes most of the colleges surveyed, whose low capacity ratings make them a priority for support.

Table 19. *Western Africa country spotlights.*

Country	Desk review programmes	of which PhD level	Dedicated AI degrees	Survey respondents (institutions)
Nigeria	48	1	7	136 (41)
Ghana	18	1	6	3 (1)
Senegal	3	0	2	0 (0)
Côte d'Ivoire	0	0	0	0 (0)
Benin	7	0	0	7 (1)

Country	Desk review programmes	of which PhD level	Dedicated AI degrees	Survey respondents (institutions)
Burkina Faso	0	0	0	7 (3)

11.3 Southern Africa

Southern Africa's 52 programmes are concentrated in a few well-resourced research universities in South Africa (30), which produce much of the continent's internationally recognised AI research: Wits and the University of Johannesburg run dedicated Master's degrees in AI, Stellenbosch University commercialised Coach Vici, and the University of Pretoria hosts the Absa Chair of Data Science. Namibia (NUST) and Zimbabwe (Africa University, Midlands State University) offer dedicated Bachelor's degrees; no dedicated doctoral programme was found. The survey reached 20 respondents in four countries, including Zambia and Mozambique.

Southern African respondents report the highest overall capacity (2.95) and are least likely to rate research funding poor (21.4%), yet they are the least likely to agree that their institution offers adequate AI courses (26.8%), and support for women is thinnest here: 18.3% report adequate mentoring and 12.8% report scholarships for women. Uncertainty about AI ethics guidelines is also highest (44.6%).

Table 20. *Southern Africa country spotlights.*

Country	Desk review programmes	of which PhD level	Dedicated AI degrees	Survey respondents (institutions)
South Africa	30	2	2	10 (4)
Zimbabwe	9	0	2	6 (2)
Zambia	3	0	0	2 (2)
Mozambique	0	0	0	2 (1)
Namibia	1	0	2	0 (0)

11.4 Central Africa

Central Africa has the least documented AI higher-education activity of any sub-region, and this absence is a finding in its own right. The desk review identified a single programme, in Chad, and no dedicated AI degree. The survey reached three respondents in Cameroon, two of them at the University of Ngaoundéré. The near-absence is more likely to reflect limited online visibility, the dominance of French in published material and infrastructure constraints- factors the UNESCO-IICBA and UNESCO-ICHEI (2026) study links to lower Francophone AI engagement- than an absence of activity. Direct outreach through ATPS national chapters and institutions in Cameroon, Gabon, the Democratic Republic of the Congo and their neighbours is the priority for closing this gap.

11.5 Northern Africa: A Continental Reference Point

Northern Africa (outside the ARISE scope)

The desk review covered the continent and recorded 105 programmes in Northern Africa, a quarter of the continental total, led by Morocco (42), Algeria (38), and Egypt (24). The sub-region hosts 14 of the continent's 54 dedicated AI degrees and three of the five standalone AI doctorates, at Badji Mokhtar Annaba University and the National School of Artificial Intelligence in Algeria, and Ain Shams University in Egypt. Egypt is the clear regional leader in the Oxford Insights readiness index.

These institutions are not targets for ARISE support, and the survey did not cover them. They are recorded here because they show what dedicated national investment in AI higher education, including standalone AI faculties and doctorates, can achieve, and because they are potential partners for South–South learning.

12. Conclusions and Strategic Recommendations

12.1 Principal Findings

The findings are grouped by theme: the status of AI capacity, the resources that sustain it, the gains already made, the gaps and challenges that remain, the capacity needs respondents identify, and the main source of variation. They are numbered consecutively so that the recommendations in Section 12.2 can refer to them.

Status

1. **AI teaching is widespread.** The desk review found 295 AI-related programmes at 225 institutions and initiatives in 27 sub-Saharan countries, about three-quarters leading to a formal qualification (Section 4.1).
2. **Provision is concentrated.** Eastern Africa accounts for 163 programmes, and Kenya, Nigeria, and South Africa account for half of the region's total; Central Africa registered one programme (Sections 3.1, 11).
3. **Most AI is taught within other disciplines.** Only 40 dedicated AI degrees exist in the region, and 88% of programmes focus on general AI, data science or machine learning (Sections 4.1, 4.2).
4. **Commitment outpaces strategy.** 78.0% see AI as strategic but 38.3% report an institutional AI strategy; where a strategy exists, self-rated capacity is markedly higher (Section 3.4).

Resources

5. **Support depends on partnerships.** Governments, donors, foundations and technology companies, rather than institutional budgets, finance much of the region's AI training and research (Section 6.1).

Gains

6. **A substantial base of capable institutions.** The provisional classification places 31 of 73 surveyed institutions in the Advanced or Leading tiers, and respondents report wide Bachelor's, Master's and doctoral provision in AI-related fields (Sections 3.4, 4.1).
7. **Research is translating into use.** Six verified success stories, from AirQo to KilimoAI and Masakhane, show university AI research reaching cities, farmers and language communities, and respondents report many more candidates (Section 5.3).

Gaps and challenges

8. **Doctoral training is the scarcest layer.** PhD-level training accounts for 5% of programmes, and only two standalone AI doctorates were verified in sub-Saharan Africa, one of them newly announced (Section 4.1).
9. **The research environment is weak.** 63.5% rate research opportunities and funding as poor or fair, and access to data and mentors is similarly constrained (Section 5.1).

10. **Infrastructure is the most acutely felt deficit.** Software licences, cloud, computing, datasets and laboratories are each described as absent or inadequate by 39% to 54% of respondents (Section 6.2).
11. **Industry linkage is weak.** Only 15.2% collaborate with industry, against 51.5% with government, and spin-outs are rare (Section 8).
12. **Responsible AI governance is largely invisible.** 28–34% do not know whether ethics, data or privacy instruments exist, and ethics features in few programmes, yet it is the top request for the PhD curriculum (Sections 4.2, 9.4).
13. **A gender paradox.** Equality is affirmed in principle (82.7%), mostly by men, but scholarships (21.4%) and mentoring (36.9%) for women are scarce, and women name funding and awareness barriers far more often than men (Section 7).

Capacity needs

14. **Laboratories, research funding and curriculum.** These are the top three priorities for corrective intervention; from ARISE specifically, respondents want funding, training, mentorship and curriculum support (Section 10.7).

Variation

15. **Type matters more than place.** Capacity differs little between sub-regions (2.79 to 2.95) but sharply between colleges (1.90) and universities or research institutes (2.86 to 3.05) (Section 3.4).

12.2 Strategic Recommendations

Recommendations are grouped in five clusters aligned with the ARISE specific objectives. Each specifies the evidence on which it rests, who should act, and over what timeframe.

Table 21. *Strategic recommendations.*

Recommendation	Evidence	Lead actor	Timeframe	ARISE link
Objective 1: Mapping				
1.1 Verify the standalone AI doctorates and the register entries flagged for examination, and confirm enrolment and staffing directly with institutions.	4.1; F8	ATPS	Immediate	Obj. 1, 2
1.2 Extend outreach to Central, Francophone and Lusophone Africa through national chapters, and widen the success-story shortlist to every sub-region.	3.1, 11.4; F2	ATPS	1–2 yrs	Obj. 1
1.3 Publish the institutional register and success stories on the ATPS ICE platform as a living resource for prospective fellows and partners.	3, 5.3	ATPS	1–2 yrs	Obj. 1, 3
1.4 Repeat the survey in Year 3, with gender disaggregation across all responses and validated institutional data, to measure change.	2.10; F15	ATPS	3+ yrs	Obj. 1
Objective 2: Fellowships and community of practice				

Recommendation	Evidence	Lead actor	Timeframe	ARISE link
2.1 Place and co-supervise fellows across strong computer science and data science departments, not only in named AI doctorates.	4.1; F8	ATPS; host HEIs	Immediate	Obj. 2
2.2 Design outreach and mentoring specifically for women, particularly at postdoctoral level.	7; F13	ATPS	Immediate	Obj. 2
2.3 Build a mentoring network linking fellows to successful research teams and pan-African networks.	5, 8; F7	ATPS; networks	1–2 yrs	Obj. 2, 3
Objective 3: Knowledge sharing				
3.1 Use webinars, the training manual and workshops to induct staff and students into institutional ethics, data governance and privacy obligations.	9.4; F12	ATPS; HEIs	Immediate	Obj. 3
3.2 Include practical training on free and low-cost cloud and compute resources, and showcase success stories as learning cases.	6.2, 5.3; F10	ATPS	Immediate	Obj. 3
Objective 4: Curriculum				
4.1 Develop the standardised PhD curriculum with ethics embedded alongside practical engineering, domain applications and African-language AI.	4.2; F3, F12	ATPS; partner HEIs	1–2 yrs	Obj. 4
4.2 Include colleges and polytechnics among the ten institutions supported to develop or revise AI curricula.	3.4; F15	ATPS; HEIs	1–2 yrs	Obj. 4
4.3 Encourage institutions to adopt AI strategies and make governance instruments visible.	3.4, 9.4; F4	HEI leadership	1–2 yrs	Obj. 4, 5
Objective 5: Policy				
5.1 Produce policy briefs on shared compute and cloud infrastructure, academic software licensing and dedicated AI research funding.	6.1, 6.2; F5, F9, F10	ATPS; governments	1–2 yrs	Obj. 5
5.2 Use policy dialogues to promote institutional and national AI strategies aligned with the AU Continental AI Strategy, and accreditation routes for interdisciplinary AI doctorates.	9; F4	ATPS; governments; regulators	1–2 yrs	Obj. 5
5.3 Advocate gender-disaggregated data systems and scholarships for women in AI.	7; F13	Governments; HEIs	3+ yrs	Obj. 5

Evidence column cites report sections and principal findings (F1 to F15 in Section 12.1).

12.3 Implications for Subsequent ARISE Activities

Activity 2 (fellowships). The register of institutions and degrees (Appendices C and D) and the readiness classification identify where fellows can find supervision and peers: the dense portfolios of Kenya, Nigeria, South Africa, Rwanda, Ghana and Uganda, and institutions with documented research translation. The gender evidence argues for deliberate outreach to women and for mentoring that responds to the barriers women themselves name.

Activity 3 (knowledge sharing). Together, the governance awareness gap, the demand for training and mentorship, and the success stories define the content of webinars, workshops, and the ICE platform. Respondents' requests for training, mentorship and collaboration match what the activity can provide.

Activity 4 (curriculum). Curriculum is a top-three priority, and respondents' suggestions give the standardised PhD curriculum a clear shape: ethics and responsible AI, practical engineering, domain applications and African-language AI. Colleges and polytechnics, which rate their capacity lowest, should be among the institutions supported.

Activity 5 (policy). The evidence most strongly supports infrastructure, research funding, and institutional strategy as policy themes. Kenya, Nigeria, South Africa, Rwanda and Ghana, with active programmes and policy environments, are ready for engagement; countries outside the AI-ready cluster need advocacy for basic frameworks.

12.4 Future Research Directions

Several questions remain open. Enrolment, completion and gender balance by programme could not be measured, nor could funding amounts or research output, which would require registry data and bibliometric analysis. Institutional profiles grounded in direct engagement with institutions, a co-authorship network analysis, and a country-by-country inventory of national AI policies and regional economic community frameworks would deepen the picture. The success-story shortlist should be widened to cover West and Central Africa, drawing on candidates named by surveyed respondents. Repeating the mapping in Year 3 of ARISE, with the same instruments and weighting, would show whether the gaps identified here are narrowing.

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Appendix A: AI Capacity Assessment Survey Instrument

The questionnaire was administered online through Google Forms between August and October 2026. The table below lists every item with its response format. The full form, including its introductory text, is held by the ATPS Secretariat.

Table 22. *Structure and items of the AI Capacity Assessment questionnaire (59 items).*

Section	Items	Response format
A. Institutional information	Country; geographical region; name of institution; institution ownership; institution type; primary role; email (removed before analysis); number of PhD students enrolled annually	Single choice; free text; numeric
B. AI awareness and engagement	Familiarity with AI (1–5); involvement or interaction with AI (select all); existence of an institutional AI strategy; whether AI is an important strategic area (1–5); existing AI collaboration with government, research institutes, development partners, international universities, industry, NGOs (select all)	Rating; single and multiple choice
C. Teaching and learning	My institution offers adequate AI-related courses; provides practical AI learning opportunities; has qualified AI instructors; provides access to online AI learning resources; supports postgraduate AI education (each 1–5). Levels at which AI or related courses are offered (select all). Number of AI academic staff	Five-point agreement; multiple choice; numeric
D. Research	Individuals involved in AI research (optional; removed before analysis); ratings of research opportunities and funding, access to supervisors and mentors, access to research datasets; AI research groups and ongoing projects; major application areas (select all); AI solutions originating in African universities	Five-point rating; free text; multiple choice
E. Infrastructure and resources	Adequacy of computer laboratories; internet connectivity; computing facilities (HPC, GPU, portals, LMS); cloud computing access; AI software licences; research datasets; innovation spaces and hubs; teaching staff; AI technical support	Not existent / Not adequate / Do not know / Slightly adequate / Very adequate
F. Responsible AI	Existence of AI ethics guidelines; research ethics committee addressing AI; data governance policy; AI policy or regulations; privacy guidelines. How well responsible AI is addressed (1–5)	Yes / No / Not sure; five-point rating
G. Gender and inclusion	Institution has a gender policy; women have equal opportunities in AI research; AI scholarships for women exist; adequate mentoring for women; AI programmes inclusive of under-represented groups; biggest barriers for women in AI (select all); respondent gender	Agree / Neither / Disagree; multiple choice; single choice
H. Capacity needs	Five areas requiring the most immediate corrective intervention within two years; nature of intervention required; overall institutional AI capacity (1–5); preparedness for AI and frontier technologies (1–5)	Multiple choice (five); free text; five-point rating
I. Open-ended questions	Greatest institutional strength in AI; biggest challenges; support with greatest impact; additional content for a standardised PhD curriculum in AI; how ARISE can support the institution; other thoughts	Free text

Appendix B: Desk Review Data Fields and Coding Frames

The first table below lists the core fields of the harmonised desk review dataset (40 fields in total, including raw and standardised versions of several variables and quality indicators). The second and third tables present the thematic frames used to code open-ended survey answers; the keyword dictionaries included French equivalents such as financement, formation, sensibilisation, and éthique.

Table 23. *Core fields of the desk review data extraction template.*

Field	Definition
Country and sub-region	Country of the offering institution; sub-region standardised to Eastern, Western, Southern, Central, Northern or multi-region
Institution and institution type	Offering institution; grouped type (university programme, government initiative, bootcamp, research centre, college, etc.)
Programme name and type	Title as published; standardised type (PhD, Master's, Bachelor's, Diploma, Certificate, bootcamp, short course, fellowship, etc.)
Level flags and highest level	Binary flags for certificate, diploma, Bachelor's, Master's and PhD; highest level reported; degree-granting status
AI origin	Standalone AI programme or AI specialisation within another discipline, with base discipline
AI focus area	Primary area of AI emphasis (general AI, data science, machine learning, NLP, computer vision, robotics, policy and ethics, health AI, etc.)
Delivery and duration	Training format (in person, hybrid, online); duration as stated and in months where parseable
Audience, partners and status	Target audience; named partner organisations; programme status (active, planned, ended)
Source and quality	Source URL; whether verified against a second source; completeness of the record (percentage of fields filled)

Table 24. *Thematic frame for open-ended answers on challenges, support and ARISE's role.*

Theme	Indicative terms captured
Funding and financial support	funding, finance, grants, sponsorship, scholarships, financement, bourse
Infrastructure, laboratories and equipment	infrastructure, laboratories, facilities, computers, GPUs, software, licences, tools, matériel
Internet connectivity	internet, network, connectivity, Wi-Fi, connexion
Electricity and power supply	electricity, power outages, fuel
Skilled staff and expertise	experts, lecturers, instructors, manpower, specialised staff, enseignants
Training and capacity building	training, workshops, skills, seminars, courses, formation, renforcement
Mentorship and collaboration	mentorship, collaboration, partnerships, industry linkage, partenariat
Awareness, attitudes and interest	awareness, sensitisation, interest, fear, resistance, motivation, sensibilisation
Curriculum and programmes	curriculum, departments, programmes, modules, cursus
Policy, governance and leadership	policy, guidelines, governance, management, strategy, politique
Data and datasets	data, datasets, données
Ethics and responsible use	ethics, responsible use, éthique

Table 25. *Thematic frame for suggestions on a standardised PhD curriculum in AI.*

Theme	Indicative terms captured
Ethics, responsible AI, governance and policy	ethics, responsible, governance, policy, fairness, explainability, safety, accountability, gender
Practical, hands-on and engineering skills	practical, hands-on, engineering, APIs, prompting, open source, laboratory
Domain applications	agriculture, health, climate, education, security, fisheries
Data science, statistics and research methods	data, statistics, research methods, analytics, thesis
Robotics, IoT and edge AI	robotics, Internet of Things, edge, tinyML, automation
Machine learning, deep learning and generative AI	machine learning, deep learning, generative, LLM, neural, NLP
Entrepreneurship and innovation	entrepreneurship, innovation, marketing, industry

Appendix C: Master List of Mapped Institutions

The first table below lists the 73 higher education and research institutions whose staff or students responded to the survey. The second lists the institutions and initiatives in sub-Saharan Africa identified by the desk review, with the number and types of AI-related programmes recorded for each; an institution operating in more than one country appears once per country. Inclusion in either list does not imply any assessment of quality.

Table 26. *Higher education and research institutions represented in the survey (n = 73).*

Country	Institution	Type
Benin	Université d'Abomey-Calavi	University
Burkina Faso	Institut de l'environnement et de recherches agricoles	Research Institute
Burkina Faso	Université Joseph Ki-Zerbo	University
Burkina Faso	Université Nazi Boni	University
Cameroon	University of Ngaoundéré	University
Ethiopia	Addis Ababa Science and Technology University	University
Ethiopia	Addis Ababa University	University
Ethiopia	Arba Minch University	University
Ethiopia	Bahir Dar University	University
Ghana	University of Ghana	University
Kenya	Cooperative University of Kenya	University
Kenya	Jomo Kenyatta University of Agriculture and Technology	University
Kenya	Kenya Methodist University	University
Kenya	Moi University	University
Kenya	Pan African University Institute for Basic Sciences, Technology and Innovation	University
Kenya	Strathmore University	University
Kenya	Technical University of Kenya	University
Kenya	Turkana East Technical and Vocational College	College
Kenya	United States International University-Africa	University
Kenya	University of Nairobi	University
Mozambique	Eduardo Mondlane University (Faculty of Agronomy and Forest Engineering)	University
Nigeria	Abubakar Tafawa Balewa University	University
Nigeria	Agricultural and Rural Management Training Institute (ARMTI), Ilorin	Research Institute
Nigeria	Ahmadu Bello University	University
Nigeria	Ajayi Crowther University	University
Nigeria	Alex Ekwueme Federal University Ndufu Alike Ikwo	University
Nigeria	Bayero University Kano	University
Nigeria	Benue State Polytechnic Ugbokolo	Polytechnic
Nigeria	Dennis Osadebay University	University
Nigeria	Ebonyi State University	University
Nigeria	Federal College of Agriculture, Ishiagu	College
Nigeria	Federal College of Education (Technical) Umunze Anambra State	College
Nigeria	Federal College of Education Sp Oyo	College

Country	Institution	Type
Nigeria	Federal College of Education Technical Gusau Zamfara state	College
Nigeria	Federal College of Forestry, Ibadan	College
Nigeria	Federal Polytechnic Wannune	Polytechnic
Nigeria	Federal University Dutsin-Ma	University
Nigeria	Federal University of Agriculture Mubi	University
Nigeria	Federal University of Agriculture and Development Studies. Iragbiji, Osun State	University
Nigeria	Federal University of Agriculture, Abeokuta	University
Nigeria	Federal University of Lafia	University
Nigeria	Federal University of Technology Owerri	University
Nigeria	Federal University of Technology, Akure	University
Nigeria	Joseph Sarwuan Tarka University	University
Nigeria	Kashim Ibrahim University	University
Nigeria	Kwara State University	University
Nigeria	MIVA Open University	University
Nigeria	Maduka University, Enugu State	University
Nigeria	Michael Okpara University of Agriculture, Umudike	University
Nigeria	National Institute for Freshwater Fisheries Research	Research Institute
Nigeria	Nile University of Nigeria Abuja	University
Nigeria	Nnamdi Azikiwe University, Awka	University
Nigeria	Sikiru Adetona College of Education Science and Technology Omu-Ajose	College
Nigeria	Tai Solarin Federal University of Education	University
Nigeria	Taraba State University	University
Nigeria	University of Calabar	University
Nigeria	University of Cross River State	University
Nigeria	University of Ibadan	University
Nigeria	University of Maiduguri	University
Nigeria	University of Nigeria, Nsukka	University
Nigeria	University of Port Harcourt	University
Nigeria	Veritas University, Abuja	University
Rwanda	Rwanda Polytechnic	Polytechnic
Rwanda	University of Rwanda	University
South Africa	College of Cape Town	College
South Africa	University of KwaZulu-Natal	University
South Africa	University of Cape Town	University
South Africa	University of Johannesburg	University
Uganda	Busitema University	University
Zambia	Centre for Energy Environment and Engineering Zambia (CEEEZ)	Research Institute
Zambia	Zambian Open University	University
Zimbabwe	Gwanda State University	University
Zimbabwe	Manicaland State University of Applied Sciences	University

Table 27. *Sub-Saharan institutions and initiatives identified by the desk review (233 country entries).*

Country	Institution or initiative	Programmes	Programme types
Angola	Universidade Agostinho Neto (UAN)	1	Bachelor
Angola	Universidade Católica de Angola (UCAN)	1	Master
Angola	Universidade Lusíada de Angola (ULA)	1	Bachelor
Angola	Various (AI4D / partnerships)	1	Fellowship/Scholarship
Benin	Benin.ai	5	Bootcamp
Benin	Bloom Academy for AI (BAFAI)	1	Bootcamp
Benin	International Center for Journalists (ICFJ)	1	Bootcamp
Botswana	Botho University	1	Bachelor
Botswana	Botswana International University of Science and Technology (BIUST)	1	Master
Botswana	Links College of Science and Technology	1	Diploma
Botswana	University of Botswana (UB)	1	Bachelor
Burundi	Great Lakes University (UGL)	1	Bachelor
Burundi	Lake Tanganyika University	1	Bachelor
Burundi	Université du Burundi	1	Bachelor
Burundi	Université du Burundi - Institut de Technologies Numériques (ITN)	1	Bachelor
Chad	Chadian Agency for the Development of Information and Communication Technologies (ADETIC)	1	Certificate
Comoros	Mid Ocean University	1	Master
Comoros	Various (AI4D / partnerships)	1	Fellowship/Scholarship
Eswatini	University of Eswatini (UNESWA) AI Academy	1	Short Course
Ethiopia	ADDIS ABABA UNIVERSITY	1	Master
Ethiopia	Addis Ababa University	1	Master
Ethiopia	Addis Ababa University (AAU)	2	Master, PhD
Ethiopia	Arba Minch University	1	Workshop
Ethiopia	Bahir Dar University	1	Master
Ethiopia	Ethiopia AI Institutre	1	Bootcamp
Ethiopia	Ethiopian Artificial Intelligence Institute	1	Bootcamp
Ethiopia	Haramaya University	1	Master
Ethiopia	Jimma University	1	Master
Ethiopia	Medemer Artificial Intelligence University (MAIU)	1	PhD
Ethiopia	Ministry of Innovation and Technology (MInT)	1	Certificate
Ethiopia	Safaricom	1	Fellowship/Scholarship
Ethiopia	School of IT (Apponix/School of IT network)	1	Professional Training
Ethiopia	Sprintzeal (training provider)	2	Professional Training
Ethiopia	University of Gondar	1	Master
Ghana	AIMS Ghana	1	Master
Ghana	AWS / Generation Ghana	1	Bootcamp
Ghana	Academic City University (ACity)	2	Bachelor
Ghana	Ashesi University	1	Master
Ghana	Commonwealth of Learning (COL)	1	Workshop
Ghana	Ghana Communication Technology University (GCTU)	1	Bachelor
Ghana	Kwame Nkrumah University of Science and Technology (KNUST)	1	Certificate

Country	Institution or initiative	Programmes	Programme types
Ghana	Ministry of Communication, Digital Technology and Innovations (MoCDTI)	5	Bootcamp, Certificate
Ghana	National Democratic Conference(NDC)	1	Certificate
Ghana	Open Institute of Technology	1	PhD
Ghana	University of Cape Coast (UCC) - CDAMAA Academy	1	Certificate
Ghana	University of Ghana (UG)	1	Master
Ghana	Wisconsin International University College Ghana (WIUC)	1	Bachelor
Kenya	ALX Africa	1	Professional Training
Kenya	Africa Data School	1	Bootcamp
Kenya	Africa International University (AIU)	1	Diploma
Kenya	African Centre for Technology Studies (ACTS)	2	Fellowship/Scholarship, Research Programme
Kenya	Amazon Web Services (AWS)	1	Bootcamp
Kenya	Blue Nile Analytica	1	Diploma
Kenya	Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA)	2	Bootcamp, Certificate
Kenya	Cooperative University of Kenya (CUK)	1	Bachelor
Kenya	Dedan Kimathi University of Technology (DeKUT)	1	Research Programme
Kenya	Delight Technical College	2	Diploma
Kenya	DigiAsk Training College	1	Short Course
Kenya	Egerton University	1	Master
Kenya	Enlightened Center	1	Diploma
Kenya	Jomo Kenyatta University of Agriculture and Technology (JKUAT)	2	Bachelor, Master
Kenya	Jomo Kenyatta University of Agriculture and Technology(JKUAT)	2	Certificate, Master
Kenya	KCA University	2	Diploma, Master
Kenya	KSTVET (Kenya State Department for TVET) / National Polytechnics	1	Diploma
Kenya	Kabarak University	3	Master
Kenya	Kenya Advanced Institute of Science and Technology (KAIST-style, Konza)	1	PhD
Kenya	Kenya Defence Forces	1	Certificate
Kenya	Kenya Private Sector Alliance (KEPSA)	1	Certificate
Kenya	Kenya School of Government (KSG)	1	Certificate
Kenya	Kenya School of Government (KSG) / Africa Centre of Competence for Digital & AI Skilling	1	Certificate
Kenya	Kenyatta University	1	Certificate
Kenya	Kenyatta University (KU)	2	Bachelor
Kenya	Konza Technopolis / Ministry of ICT	1	Certificate
Kenya	Ministry of Education	1	Certificate
Kenya	Ministry of ICT and Digital Economy	1	Certificate
Kenya	Moringa School	4	Bootcamp, Professional Training
Kenya	Mount Kenya University	2	Bachelor, Master
Kenya	Mount Kenya University (MKU)	1	Master
Kenya	Nation Media Group(NMG)	1	Bootcamp

Country	Institution or initiative	Programmes	Programme types
Kenya	Open University of Kenya (OUK)	3	Bachelor, Master
Kenya	Ramsis Technical Training College (RTTC)	1	Diploma
Kenya	Strathmore University	4	Master, PhD, Professional Training
Kenya	Strathmore University / @iLabAfrica	1	Professional Training
Kenya	Tangaza University	1	Diploma
Kenya	Technical Skills Institute	1	Diploma
Kenya	Technical University of Kenya (TUK)	1	Certificate
Kenya	Technical and Vocational Education and Training (TVET)	1	Certificate
Kenya	The Technical University of Kenya (TUK)	1	Certificate
Kenya	UNESCO / Oxford Saïd Business School / Kenya School of Government	1	Online Course
Kenya	USIU-Africa	1	Master
Kenya	United Nations Development Programme (UNDP	1	Bootcamp
Kenya	United Sates International University (USIU)	1	Bachelor
Kenya	United States International University-Africa (USIU-Africa)	1	Bachelor
Kenya	University of Nairobi	1	Master
Kenya	University of Nairobi (UoN)	4	Master, PhD
Kenya	Zetech University	2	Diploma
Liberia	University of Liberia (UL)	1	Master
Malawi	Ministry of Higher Education (MoHE)	1	Workshop
Mauritius	Middlesex University Mauritius	1	Bachelor
Mauritius	University of Technology Mauritius (UTM)	1	Master
Namibia	Namibia University of Science and Technology (NUST)	1	Bachelor
Niger	Covenant University	1	Master
Nigeria	American University of Nigeria (AUN)	1	Master
Nigeria	Babcock University	2	Certificate, Master
Nigeria	Baze University	1	Professional Training
Nigeria	Bloom Academy for AI (BAFAI)	1	Bootcamp
Nigeria	Bureau of Public Service Reforms(BPSR)	1	Certificate
Nigeria	CIHAN Digital Academy	1	Bootcamp
Nigeria	Covenant University	2	Master
Nigeria	Data Science Nigeria (DSN)	1	Bootcamp
Nigeria	Federal Ministry of Communications, Innovation and Digital Economy (FMCIDE)	1	Certificate
Nigeria	Federal Ministry of Education (FME)	1	Certificate
Nigeria	Federal Ministry of Innovation, Science and Technology (FMIST)	3	Certificate
Nigeria	Federal University Oye-Ekiti (FUOYE)	1	Bachelor
Nigeria	Google	1	Bootcamp
Nigeria	Instig Labs	1	Bootcamp
Nigeria	Intel / Federal Government of Nigeria	1	Certificate
Nigeria	Kaduna State University (KASU)	1	Bachelor
Nigeria	Lagos State University (LASU) / LASU-TCRT	1	Professional Training
Nigeria	Maryam Abacha American University of Nigeria	1	Bachelor

Country	Institution or initiative	Programmes	Programme types
Nigeria	Michael Okpara University of Agriculture Umudike (MOUAU)	1	Master
Nigeria	Miva Open University	1	Bachelor
Nigeria	National Open University of Nigeria (NOUN)	3	Certificate, Master, PhD
Nigeria	National Senior Secondary Education Commission	1	Certificate
Nigeria	National University Commission (NUC)	1	Bachelor
Nigeria	Nile University of Nigeria	1	Bachelor
Nigeria	Nnamdi Azikiwe University	1	Certificate
Nigeria	Obafemi Awolowo University (OAU)	1	Master
Nigeria	Pan-Atlantic University (PAU)	1	Master
Nigeria	Robotics & Artificial Intelligence Nigeria(RAIN)	4	Bootcamp
Nigeria	Salem University Nigeria	1	Bachelor
Nigeria	Skyline University Nigeria	1	Bachelor
Nigeria	Summit University, Offa	1	Bachelor
Nigeria	TeKnowledge	1	Bootcamp
Nigeria	University of Abuja (UniAbuja)	1	Master
Nigeria	University of Lagos(UNILAG)	1	Certificate
Nigeria	University of Nigeria Nsukka	1	Certificate
Nigeria	University of Port Harcourt	1	Master
Nigeria	University of Uyo (UNIUYO)	1	Bachelor
Nigeria	World Bank	1	Bootcamp
Nigeria	Young People in Tech(TPIT)	1	Workshop
Rwanda	ALX / Anthropic / Government of Rwanda (Ministries of Education and ICT)	1	Certificate
Rwanda	African Institute for Mathematical Sciences (AIMS)	1	PhD
Rwanda	African Institute for Mathematical Sciences (AIMS) Rwanda	1	Master
Rwanda	CMU-Africa / TReND in Africa	1	Bootcamp
Rwanda	Carnegie Mellon University Africa	1	Master
Rwanda	Carnegie Mellon University Africa & University of Rwanda	1	Certificate
Rwanda	Carnegie Mellon University Africa (CMU-Africa)	3	Master, Research Programme
Rwanda	Cenfri	1	Certificate
Rwanda	Digital Centre Rwanda (GIZ-supported)	1	Certificate
Rwanda	Government of Rwanda / ALX / Anthropic	1	Certificate
Rwanda	INRS (Institut d'Enseignement Supérieur de Ruhengeri) / Other Private Institutions	1	Master
Rwanda	Ministry of ICT and Innovation (Rwanda)	1	Certificate
Rwanda	Ministry of Justice	1	Certificate
Rwanda	Oklahoma Christian University	1	Bachelor
Rwanda	Rwanda ICT Chamber / Private Sector Federation (PSF) - WeCode Initiative	1	Professional Training
Rwanda	Rwanda Ministry of Education / Rwanda Education Board (REB) / Day of AI / MIT RAISE	1	Certificate
Rwanda	University of Rwanda	1	Bachelor
Rwanda	University of Rwanda - African Centre of Excellence in Data Science (ACE-DS)	1	PhD

Country	Institution or initiative	Programmes	Programme types
Senegal	Ministry of Communication, Telecommunications and Digital	1	Certificate
Senegal	Ministry of National Education (MEN)	1	Certificate
Senegal	Nokia	1	Bootcamp
Seychelles	University of Seychelles	1	Bachelor
Seychelles	University of Seychelles & EON Reality	3	Professional Training
Somalia	Al-Imra International University (AIU)	1	Bachelor
Somalia	Mastercard Foundation Scholars Program / Leadership for Africa Programme	1	Fellowship/Scholarship
Somalia	Ministry of Communications and Technology (MoCT)	1	Certificate
South Africa	AIMS South Africa	1	Master
South Africa	African Institute for Mathematical Sciences (AIMS)	1	Master
South Africa	Amazon Web Services (AWS)	1	Certificate
South Africa	Durban University of Technology(DUT)	1	Certificate
South Africa	Eduvos	1	Certificate
South Africa	Google	1	Bootcamp
South Africa	Microsoft	2	Bootcamp, Certificate
South Africa	Rhodes University	1	Bachelor
South Africa	Sol Plaatje University (SPU)	1	Bachelor
South Africa	Stellenbosch University	3	Certificate, Master
South Africa	The Human Sciences Research Council (HSRC)	1	Certificate
South Africa	UNISA	1	Master
South Africa	University of Cape Town	3	Bachelor, Master
South Africa	University of Cape Town (UCT)	1	Master
South Africa	University of Johannesburg	2	Master
South Africa	University of Johannesburg (UJ)	1	Master
South Africa	University of KwaZulu-Natal (UKZN)	1	Master
South Africa	University of Pretoria	1	Master
South Africa	University of Pretoria (UP)	1	PhD
South Africa	University of the Western Cape (UWC)	1	Bachelor
South Africa	University of the Witwatersrand (Wits)	1	Master
South Africa	University of the Witwatersrand, Johannesburg	1	Master
South Africa	Wits University	2	Master, PhD
South Sudan	DAAD / Mastercard Foundation / Leadership for Africa Programme	1	Fellowship/Scholarship
South Sudan	University of Juba	1	Bachelor
Tanzania	Bank of Tanzania (BoT) with UDSM, UDOM, Ardhi University, EASTC, NM-AIST	1	Certificate
Tanzania	NM-AIST / School of Computational and Communication Science and Engineering	1	Certificate
Tanzania	Nelson Mandela African Institution of Science and Technology (NM-AIST)	2	Master, PhD
Tanzania	University of Dar es Salaam (UDSM)	1	Fellowship/Scholarship
Tanzania	University of Dar es Salaam (UDSM) - BSc Computer Science	1	Bachelor
Tanzania	University of Dar es Salaam (UDSM) - CoICT Short Courses	1	Short Course

Country	Institution or initiative	Programmes	Programme types
Tanzania	University of Dar es Salaam (UDSM) - College of ICT (CoICT)	2	Master, PhD
Tanzania	University of Dodoma (UDOM)	1	Master
Tanzania	Women in Tech Global	3	Bootcamp
Togo	Ministry of Digitalization and Digital Economy	1	Certificate
Uganda	African Center of Excellence in Bioinformatics and Data-Intensive Sciences (ACE) - Makerere	1	PhD
Uganda	Busitema University	1	Master
Uganda	Carnegie Mellon University Africa (CMU-Africa)	1	Master
Uganda	Cavendish University Uganda (CUU)	1	Bachelor
Uganda	ISBAT University	1	Bachelor
Uganda	Inter-University Council for East Africa (IUCEA)	1	Fellowship/Scholarship
Uganda	International University of East Africa	1	Bachelor
Uganda	Kabale University	1	Certificate
Uganda	Kampala International University (KIU)	1	PhD
Uganda	Kyambogo University	1	Master
Uganda	Makerere University	3	Bachelor, Certificate
Uganda	Makerere University / Department of Computer Science	1	Research Programme
Uganda	Makerere University College of Computing and Information Sciences (CoCIS)	2	Master, PhD
Uganda	Mbarara University of Science and Technology (MUST)	1	Master
Uganda	Nexus International University	1	Master
Uganda	Nkumba University	1	Bachelor
Uganda	The International University of East Africa (IUEA)	1	Bachelor
Uganda	Uganda Christian University (UCU)	2	Bachelor, Master
Uganda	Victoria University	2	Bachelor, Certificate
Zambia	CMU-Africa / TReND in Africa	1	Bootcamp
Zambia	Ministry of Technology and Science	1	Bootcamp
Zambia	Zambia Information and Communication Technology Authority (ZICTA)	1	Bootcamp
Zimbabwe	Africa University	1	Bachelor
Zimbabwe	Africa University - College of Engineering and Applied Sciences, Department of Artificial Intelligence, Software Engineering and Computer Science	1	Bachelor
Zimbabwe	Chinhoyi University of Technology (CUT)	1	Master
Zimbabwe	Harare Institute of Technology (HIT) - Centre for Artificial Intelligence (CAI)	1	Short Course
Zimbabwe	Institute of AI Zimbabwe (private/industry training provider)	1	Short Course
Zimbabwe	Midlands State University (MSU) - Department of Computer Science	1	Bachelor
Zimbabwe	Ministry of Information Communication Technology (ICT)	1	Certificate
Zimbabwe	National University of Science and Technology (NUST) - Faculty of Applied Science, Department of Computer Science	1	Master
Zimbabwe	University of Zimbabwe (UZ) - Department of Computer Science, Faculty of Computer Engineering, Informatics and Communications	1	Bachelor

Appendix D: Register of Dedicated AI Degree Programmes in Africa

This register lists the 54 dedicated Bachelor's, Master's and PhD programmes in Artificial Intelligence identified by the desk review, compiled from institutional websites and national or regulatory listings as of 22 July 2026 and cross-checked wherever possible against each institution's own website. Forty are in sub-Saharan Africa; the 14 Northern African programmes are retained as a continental reference. Programme names and levels follow official institutional terminology. The upcoming PhD in AI at the Open Institute of Technology in Ghana is not included. Readers should verify admission requirements and accreditation status through the source links.

Table 28. *Dedicated AI degree programmes by sub-region.*

Sub-region	Programmes	Share
East Africa	19	35.2%
West Africa	15	27.8%
Southern Africa	6	11.1%
Sub-Saharan Africa	40	74.1%
North Africa (reference)	14	25.9%
Total	54	100.0%

Table 29. *Full register of dedicated AI degree programmes.*

No.	Programme	Level	Institution	Country	Sub-region	Source
1	MSc in Artificial Intelligence and Robotics	Master's	Addis Ababa Science and Technology University (AASTU)	Ethiopia	East Africa	https://www.aastu.edu.et/registrar/programs/
2	MSc in Artificial Intelligence	Master's	Haramaya University	Ethiopia	East Africa	https://www.haramaya.edu.et/cci/academic-program/
3	MSc in Artificial Intelligence	Master's	Jimma University (Jimma Institute of Technology)	Ethiopia	East Africa	https://ju.edu.et/jit/faculties-and-schools/faculty-of-computing-and-informatics/about-the-faculty/
4	MSc in Artificial Intelligence	Master's	Jomo Kenyatta University of Agriculture and Technology (JKUAT)	Kenya	East Africa	https://www.jkuat.ac.ke/master-of-science-in-artificial-intelligence/
5	MSc in Artificial Intelligence	Master's	Kabarak University	Kenya	East Africa	https://kabarak.ac.ke/programme/msc-in-ai
6	MSc in Artificial Intelligence	Master's	Open University of Kenya	Kenya	East Africa	https://ouk.ac.ke/master-science-artificial-intelligence
7	BSc in Artificial Intelligence (AI) and Robotics	Bachelor's	United States International University Africa (USIU-Africa)	Kenya	East Africa	https://www.usiu.ac.ke/programs/bachelor-of-science-in-artificial-intelligence-ai-robotics/

No.	Programme	Level	Institution	Country	Sub-region	Source
8	Master in Artificial Intelligence and Robotics	Master's	Universite des Mascareignes (UdM)	Mauritius	East Africa	https://udm.ac.mu/wp-content/uploads/2020/01/MASTER-IAR-presentation-flyer-english.pdf
9	MSc Artificial Intelligence	Master's	University of Mauritius (UoM)	Mauritius	East Africa	https://www.uom.ac.mu/foicdt/index.php/programmes/postgraduate
10	MSc Artificial Intelligence with Machine Learning	Master's	University of Technology, Mauritius (UTM)	Mauritius	East Africa	https://www.utm.ac.mu/courses/msc-artificial-intelligence-with-machine-learning-mauritius/
11	Master of Science in Engineering Artificial Intelligence (MS EAI)	Master's	Carnegie Mellon University Africa (CMU-Africa)	Rwanda	East Africa	https://www.africa.engineering.cmu.edu/academics/programs/mseai.html
12	PhD Artificial Intelligence	PhD	Accord University (requires further examination)	Somalia	East Africa	https://accord.edu.so/masters-engineering-computer-science
13	BSc in Artificial Intelligence	Bachelor's	Hormuud University	Somalia	East Africa	https://hu.edu.so/dept_of_ai
14	Bachelor of Science in Artificial Intelligence	Bachelor's	University of Juba	South Sudan	East Africa	https://uojai.github.io/
15	Master of Science in Artificial Intelligence (MSAI)	Master's	University of Juba	South Sudan	East Africa	https://uojai.github.io/
16	Bachelor of Science in Artificial Intelligence and Machine Learning (BSc AI & ML)	Bachelor's	St. Joseph University in Tanzania (SJUIT)	Tanzania	East Africa	https://www.sjuit.ac.tz/bachelor_AI.php
17	Master of Science in Artificial Intelligence	Master's	Busitema University	Uganda	East Africa	https://dgsri.busitema.ac.ug/admissions/programmes/all?field_programme_co_value=MSA
18	Bachelor of Science in Artificial Intelligence and Machine Learning (B.Sc. AI & ML)	Bachelor's	ISBAT University	Uganda	East Africa	https://www.isbatuniversity.ac.ug/course/bachelor-of-science-in-artificial-intelligence-and-machine-learning-b-sc-ai-ml/
19	Master of Science in Artificial Intelligence	Master's	Muni University	Uganda	East Africa	https://muele.muni.ac.ug/course/index.php?categoryid=42
20	BSc Artificial Intelligence	Bachelor's	Academic City University College	Ghana	West Africa	https://acity.edu.gh/undergraduate/bsc-artificial-intelligence/
21	MSc Artificial Intelligence	Master's	Tamale Technical University (TaTU)	Ghana	West Africa	https://apply.tatu.edu.gh/applicant

No.	Programme	Level	Institution	Country	Sub-region	Source
22	DBA Artificial Intelligence (Doctor of Business Administration)	Doctorate / PhD	University of Cape Coast (UCC eCampus)- requires further examination	Ghana	West Africa	https://ecampus.ucc.edu.gh/doctor-of-business-administration-in-artificial-intelligence/
23	PhD Artificial Intelligence & Digital Transformation	Doctorate / PhD	University of Cape Coast (UCC eCampus)- requires further examination	Ghana	West Africa	https://ecampus.ucc.edu.gh/doctor-of-philosophy-in-artificial-intelligence-digital-transformation/
24	MSc Artificial Intelligence	Master's	University of Cape Coast (UCC eCampus)	Ghana	West Africa	https://ecampus.ucc.edu.gh/master-of-science-in-artificial-intelligence/
25	BSc Artificial Intelligence and Robotics	Bachelor's	Wisconsin International University College	Ghana	West Africa	https://wiuc-ghana.edu.gh/undergraduate/school-of-computing-and-technology/
26	B.Sc. Artificial Intelligence (upcoming)	Bachelor's	Enugu State University of Science and Technology (ESUT)	Nigeria	West Africa	https://independent.ng/nuc-approves-ai-cyber-security-three-other-undergraduate-programmes-for-esut/
27	B.Sc. Artificial Intelligence (upcoming)	Bachelor's	Federal University Lokoja	Nigeria	West Africa	https://fulokoja.edu.ng/news-page.php?i=1286&a=breaking-nuc-approves-ai-cyber-security-12-other-new-programmes-for-federal-university-lokoja
28	BSc Artificial Intelligence	Bachelor's	Federal University of Applied Sciences, Kaduna	Nigeria	West Africa	https://fuask.edu.ng/undergraduate.php
29	BSc Artificial Intelligence	Bachelor's	Kaduna State University	Nigeria	West Africa	https://kasu.edu.ng/department-of-intelligent-computing/
30	BSc Artificial Intelligence	Bachelor's	Miva Open University	Nigeria	West Africa	https://miva.edu.ng/bsc-artificial-intelligence/
31	MSc Artificial Intelligence	Master's	National Open University of Nigeria (NOUN)	Nigeria	West Africa	https://acetel.nou.edu.ng/m-sc-artificial-intelligence/
32	PhD Artificial Intelligence	PhD	National Open University of Nigeria (NOUN)	Nigeria	West Africa	https://acetel.nou.edu.ng/ph-d-artificial-intelligence/
33	Master en Intelligence Artificielle (MSc Artificial Intelligence)	Master's	Dakar Institute of Technology (DIT)	Senegal	West Africa	https://dit.sn/
34	Master en Intelligence Artificielle	Master's	Universite Numerique Cheikh Hamidou Kane (UN-CHK)	Senegal	West Africa	https://www.unchk.sn/nos-formations/formations-initiales/pole-sciences-technologie-et-numerique-stn/master-en-intelligence-artificielle/
35	PhD Program in Artificial Intelligence	PhD	Ain Shams University	Egypt	North Africa	https://www.asu.edu.eg/1375/page
36	Master of Science in Artificial Intelligence	Master's	Arab Academy for Science, Technology and Maritime Transport (AASTMT)	Egypt	North Africa	https://www.aast.edu/en/colleges/CAI/elalamein/

No.	Programme	Level	Institution	Country	Sub-region	Source
37	Bachelor's in Artificial Intelligence	Bachelor's	Assiut National University	Egypt	North Africa	http://aun.edu.eg/main/fr/node/83931
38	Bachelor of Science in Artificial Intelligence	Bachelor's	Delta University for Science and Technology	Egypt	North Africa	https://ai.deltauniv.edu.eg/en/home/index
39	Bachelor's Degree in Artificial Intelligence	Bachelor's	Egyptian Russian University (ERU)	Egypt	North Africa	https://eru.edu.eg/faculty-of-artificial-intelligence/
40	Bachelor of Science in Artificial Intelligence	Bachelor's	Kafr El-Sheikh University	Egypt	North Africa	http://kfs.edu.eg/en_ai/
41	BSc in Artificial Intelligence	Bachelor's	The British University in Egypt (BUE)	Egypt	North Africa	https://www.bue.edu.eg/events/ai-day-details
42	MSc in Artificial Intelligence Engineering	Master's	Zewail City of Science, Technology and Innovation	Egypt	North Africa	https://www.zewailcity.edu.eg/academics/graduate-studies/schools/program/46
43	BSc Artificial Intelligence	Bachelor's	Libyan International Medical University (LIMU)	Libya	North Africa	https://eng-tech.limu.edu.ly/artificial-intelligence/
44	Bachelor of Science in Artificial Intelligence and Robotization	Bachelor's	Al Akhawayn University (AUI)	Morocco	North Africa	https://aui.ma/school-of-science-and-engineering
45	Master's in Artificial Intelligence	Master's	Al Akhawayn University (AUI)	Morocco	North Africa	https://allqs.saqa.org.za/showQualification.php?id=118671
46	BSc in Artificial Intelligence, Data and Management Sciences	Bachelor's	ESSEC Business School (Africa Campus, Rabat)	Morocco	North Africa	https://www.essec.edu/en/program/mscs/bsc-ai-data/
47	Master in Artificial Intelligence	Master's	International University of Rabat (UIR)	Morocco	North Africa	https://www.uir.ac.ma/en/pole/school-of-computer-science-and-digital-engineering/Master-AI
48	Master Executif en Intelligence Artificielle	Master's	Universite Mohammed VI Polytechnique (UM6P)	Morocco	North Africa	https://exed.um6p.ma/program/master-executif-applied-data-science-and-artificial-intelligence/
49	Bachelor of Artificial Intelligence	Bachelor's	Namibia University of Science and Technology (NUST)	Namibia	Southern Africa	https://www.nust.na/bachelor-of-artificial-intelligence
50	Bachelor of Artificial Intelligence Honours	Bachelor's (Honours)	Namibia University of Science and Technology (NUST)	Namibia	Southern Africa	https://www.nust.na/taxonomy/term/18
51	Master of Artificial Intelligence	Master's	University of Johannesburg (UJ) - Institute for Intelligent Systems	South Africa	Southern Africa	https://iis.uj.ac.za/master-of-artificial-intelligence/

No.	Programme	Level	Institution	Country	Sub-region	Source
52	MSc Artificial Intelligence	Master's	University of the Witwatersrand (Wits)	South Africa	Southern Africa	https://www.wits.ac.za/course-finder/postgraduate/science/msc-artificial-intelligence/
53	BSc (Honours) in Artificial Intelligence	Bachelor's (Honours)	Africa University	Zimbabwe	Southern Africa	https://africau.edu/department/doce/
54	BSc Honours Degree in Artificial Intelligence (AI) and Machine Learning (ML)	Bachelor's (Honours)	Midlands State University (MSU)	Zimbabwe	Southern Africa	https://ww5.msu.ac.zw/artificial-intelligence-and-machine-learning-bsc/

Appendix E: Country-Level Data

The table below brings together the country-level counts from both methods in a form suitable for mapping and for import into the ATPS ICE platform. The underlying data are available from ATPS in CSV format.

Table 30. *Country-level indicators from the desk review and the survey.*

Country	Sub-region	DR programmes	DR institutions	PhD-level	Dedicated degrees	Survey resp.	Survey inst.
Kenya	Eastern Africa	71	49	3	4	20	10
Uganda	Eastern Africa	24	19	3	3	1	1
Rwanda	Eastern Africa	20	18	2	1	40	2
Ethiopia	Eastern Africa	17	15	2	3	5	4
Tanzania	Eastern Africa	13	9	2	1	0	0
Seychelles	Eastern Africa	4	2	0	0	0	0
Botswana	Eastern Africa	4	4	0	0	0	0
Burundi	Eastern Africa	4	4	0	0	0	0
Somalia	Eastern Africa	3	3	0	2	0	0
Mauritius	Eastern Africa	2	2	0	3	0	0
Comoros	Eastern Africa	2	2	0	0	0	0
South Sudan	Eastern Africa	2	2	0	2	0	0
Nigeria	Western Africa	48	39	1	7	136	41
Ghana	Western Africa	18	13	1	6	3	1
Benin	Western Africa	7	3	0	0	7	1
Senegal	Western Africa	3	3	0	2	0	0
Liberia	Western Africa	1	1	0	0	0	0
Niger	Western Africa	1	1	0	0	0	0
Togo	Western Africa	1	1	0	0	0	0
Burkina Faso	Western Africa	0	0	0	0	7	3
South Africa	Southern Africa	30	23	2	2	10	4
Zimbabwe	Southern Africa	9	9	0	2	6	2
Angola	Southern Africa	4	4	0	0	0	0
Zambia	Southern Africa	3	3	0	0	2	2
Eswatini	Southern Africa	1	1	0	0	0	0
Namibia	Southern Africa	1	1	0	2	0	0
Malawi	Southern Africa	1	1	0	0	0	0
Mozambique	Southern Africa	0	0	0	0	2	1
Chad	Central Africa	1	1	0	0	0	0
Cameroon	Central Africa	0	0	0	0	3	1
Morocco	Northern Africa (ref.)	42	28	2	5	0	0
Algeria	Northern Africa (ref.)	38	29	7	0	0	0
Egypt	Northern Africa (ref.)	24	16	1	8	0	0
Libya	Northern Africa (ref.)	1	1	0	1	0	0

DR = desk review. Sub-regions for Burkina Faso, Cameroon and Mozambique follow the survey classification; Botswana is recorded under Eastern Africa in the harmonised desk review dataset and should be reclassified to Southern Africa in the next update.

Appendix F: AI Readiness and Survey Indicator Data Tables

These tables report the provisional readiness classification and the headline survey indicators in aggregate. Institution-level scores are held by ATPS and are not published, in line with Section 2.9.

Table 31. *Readiness tiers by sub-region (number of institutions).*

Sub-region	Emerging	Developing	Advanced	Leading	Total	Mean score (of 25)
West Africa	1	28	16	1	46	14.4
East Africa	1	6	10	0	17	15.4
Southern Africa	1	4	4	0	9	14.9
Central Africa	0	1	0	0	1	14.6
All	3	39	30	1	73	14.7

Table 32. *Readiness tiers by institution type (number of institutions).*

Type	Emerging	Developing	Advanced	Leading	Total	Mean score (of 25)
University	1	30	26	1	58	15.2
College	2	3	3	0	8	13.3
Polytechnic	0	2	1	0	3	12.4
Research Institute	0	4	0	0	4	11.6

Type is the type most often reported by an institution's respondents. Means for polytechnics and research institutes rest on three and four institutions, respectively.

Table 33. *Mean readiness dimension scores by sub-region (1–5).*

Sub-region	Curriculum	Research environment	Staff capacity	Infrastructure	Linkages
West Africa	3.26	2.13	3.36	3.00	2.68
East Africa	3.37	2.56	3.49	2.97	2.97
Southern Africa	3.15	2.60	3.06	3.04	3.05
Central Africa	3.60	1.83	3.50	3.19	2.50
All	3.28	2.28	3.36	3.00	2.79

Figure 29 and Table 34 show how the headline survey indicators move under four weighting bases: unweighted; institutions weighted equally; the balanced weights used throughout this report; and every country weighted equally. Effective sample sizes are 228, 99, 66 and 33, respectively. Table 35 gives the same indicators by sub-region under the balanced weights.

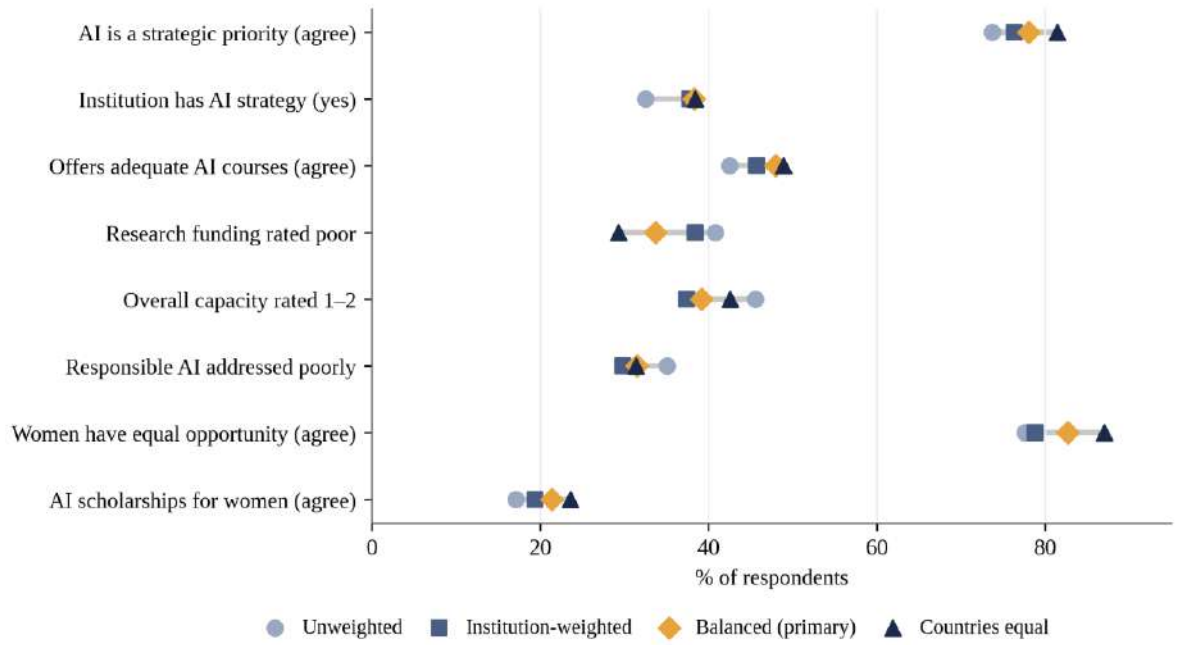


Figure 29. *Headline survey indicators under four weighting bases.*

Table 34. *Headline survey indicators under alternative weighting bases (%).*

Indicator	Unweighted	Institution-weighted	Balanced (primary)	Countries equal
AI is a strategic area (agree)	73.7	76.3	78.0	81.4
Institution has an AI strategy (yes)	32.5	37.8	38.3	38.4
Offers adequate AI courses (agree)	42.5	45.7	48.0	48.9
Supports postgraduate AI education (agree)	38.6	42.5	45.6	48.6
Research funding rated poor	40.8	38.4	33.7	29.3
AI software licences absent or inadequate	48.2	52.4	53.5	51.0
Computer laboratories absent or inadequate	43.0	38.4	39.5	38.0
Unsure whether AI ethics guidelines exist	36.0	30.1	29.8	28.5
Responsible AI addressed poorly (1–2)	35.1	29.8	31.5	31.4
Women have equal opportunities (agree)	77.6	78.8	82.7	87.0
AI scholarships for women exist (agree)	17.1	19.4	21.4	23.6
Adequate mentoring for women (agree)	29.8	35.2	36.9	39.7
Overall AI capacity rated low (1–2)	45.6	37.4	39.2	42.6
Overall AI capacity rated high (4–5)	18.9	25.1	26.9	27.3
Prepared for frontier technologies (4–5)	31.1	34.1	32.3	30.4

Table 35. *Headline survey indicators by sub-region, balanced weights (%).*

Indicator	West Africa (n=145; 46 inst.)	East Africa (n=62; 17 inst.)	Southern Africa (n=19; 9 inst.)
AI is a strategic area (agree)	77.1	75.2	79.3
Institution has an AI strategy (yes)	40.5	36.0	35.4
Offers adequate AI courses (agree)	51.9	52.2	26.8
Supports postgraduate AI education (agree)	44.4	53.2	37.2

Indicator	West Africa (n=145; 46 inst.)	East Africa (n=62; 17 inst.)	Southern Africa (n=19; 9 inst.)
Research funding rated poor	37.7	42.2	21.4
AI software licences absent or inadequate	50.4	67.4	49.9
Computer laboratories absent or inadequate	43.9	34.9	35.9
Unsure whether AI ethics guidelines exist	23.2	31.0	44.6
Responsible AI addressed poorly (1–2)	38.3	28.2	20.7
Women have equal opportunities (agree)	83.4	79.3	82.9
AI scholarships for women exist (agree)	23.4	21.7	12.8
Adequate mentoring for women (agree)	41.9	42.9	18.3
Overall AI capacity rated low (1–2)	40.3	41.6	23.7
Overall AI capacity rated high (4–5)	26.1	27.4	32.3
Prepared for frontier technologies (4–5)	34.4	34.2	31.6

Appendix G: Success-Story Profiles

These profiles are condensed from the desk review's supplementary note on leading AI use cases from African higher education, which also sets out suggested learning-visit priorities. Each case was verified against at least two published sources.

G1. AirQo, Makerere University, Uganda

AirQo was founded in 2015 within Makerere University's College of Computing and Information Sciences to close the gap in air-quality data across African cities. Its low-cost, locally built monitors are paired with AI models that calibrate readings, fill data gaps and forecast pollution, and the data are shared freely with citizens and authorities through a public platform and mobile application. A US$1.3 million Google AI Impact Challenge award in 2019 and a later US$3 million Google.org grant supported expansion from Kampala to ten cities in five countries, research collaborations with universities in Kenya and Nigeria, and training for thousands of people. Because air pollution hits low-income, high-density neighbourhoods hardest, open data extend protective information to residents who would otherwise have none.

G2. KilimoAI, Nelson Mandela African Institution of Science and Technology, Tanzania

KilimoAI is a smartphone application developed by Dr Neema Mduma, Hudson Laizer and colleagues at NM-AIST. A farmer photographs a maize or bean leaf and receives a machine-learning diagnosis and guidance within seconds. The work began under AI4D Africa, funded by IDRC and Sida, and later received support from Grow Further. It has reached over 22,000 farmers and extension officers, with an ambition to reach 400,000 by 2030, and has been featured in *Nature*. Designed for basic Android phones, with an icon-based interface and Swahili support, it retrains its model on farmers' own images, making users contributors to the research. Its lead researcher is a woman computer scientist who also supports girls in science.

G3. PeMOST, Jomo Kenyatta University of Agriculture and Technology, Kenya

PeMOST (Pest Monitoring and Surveillance in Tomatoes) combines AI with satellite remote sensing and land-surface temperature analysis to forecast outbreaks of *Tuta absoluta*, a pest that causes about 114,000 tonnes of tomato losses a year in Kenya. It was developed by Dr Joseph Sang of JKUAT with Dr Hilda Manzi of Geospatial Research International and piloted with Kathaana Vegetable Growers in Machakos County in late 2023, under the AI4AFS Innovation Research Network with ATPS among the donors. Ozor et al. (2024) documented it in a peer-reviewed paper. Lead farmers were selected using gender-inclusive criteria, and growers report lower pesticide overspray and better yields.

G4. Masakhane, a distributed network of African university researchers

Masakhane, "we build together" in isiZulu, was founded in 2019 to strengthen natural language processing for African languages. It brings together more than 1,000 contributors from over 30 countries, many of them faculty, postgraduate students and postdoctoral researchers at African universities, including the University of Ibadan. Its open datasets, including named-entity recognition data for 20 African languages, and models such as AfroXLMR are used across the continent and published at leading international conferences. The beneficiaries are speakers of low-resource African languages excluded from services that operate only in English, French or Portuguese.

G5. Coach Vici, Stellenbosch University, South Africa

Coach Vici, described as Africa's first AI coaching chatbot, was founded in 2019 by Professor Nicky Terblanche of Stellenbosch University Business School, building on his doctoral and postdoctoral research, and commercialised through the university's technology transfer office, Innovus, as a registered spin-out. A randomised controlled study found a 55% increase in goal attainment among users, against 24% in a control group (Stellenbosch Business School, 2023). Later studies have tested it with first-time graduate employees and young entrepreneurs, extending affordable coaching to people who could never pay for executive coaching, and have examined how age and gender affect willingness to use an AI coach.

G6. Lelapa AI, University of the Witwatersrand research ecosystem, South Africa

Lelapa AI, founded in December 2022 by chief executive Pelonomi Moiloa and Jade Abbott, with Professor Vukosi Marivate, Professor Benjamin Rosman and Dr Pravesh Ranchod of Wits' RAIL research group, among others, builds AI for African languages: Vulavula for transcription, translation and sentiment analysis, and InkubaLM, a small multilingual model covering Swahili, Yoruba, isiXhosa, Hausa and isiZulu. It is a private company whose link to higher education runs through its founders' academic affiliations. It raised a US$2.5 million seed round and works with Microsoft's AI for Good Lab. Independent assessments of its reach remain limited, so impact claims rest mainly on company reporting.